

04524

FINAL



**U.S. Army
Environmental
Center**

Human Health Evaluation of Exposures to Indoor Building Surfaces Army Materials Technology Laboratory

**Task Order 1
Remedial Investigation/Feasibility Study**

Contract Number DAAA15-90-D-0009

October 1995

DISTRIBUTION STATEMENT A
Approved for public release
Distribution Unlimited

19960301 084

Prepared for:

U.S. Army Environmental Center
Aberdeen Proving Ground
Maryland 21010-5401

95P-4836

Prepared by:

WESTON
MANAGERS DESIGNERS CONSULTANTS

Roy F. Weston, Inc.
West Chester,
Pennsylvania 19380-1499

DTIC QUALITY INSPECTED 1

DISCLAIMER NOTICE



THIS DOCUMENT IS BEST QUALITY AVAILABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)

2. REPORT DATE

October 1995

3. REPORT TYPE AND DATES COVERED

4. TITLE AND SUBTITLE

Human Health Evaluation of Exposures to Indoor Building Surfaces, Army Materials Technology Laboratory

5. FUNDING NUMBERS

6. AUTHOR(S)

JoAnn Duchene

7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)

Roy F. Weston, Inc.
One Weston Way
West Chester, PA 19380

8. PERFORMING ORGANIZATION REPORT NUMBER

2281-011-001-0100

9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)

U.S. Army Environmental Center
ATTN: CETHA-BC
Aberdeen Proving Ground, MD 21010-5401

10. SPONSORING/MONITORING AGENCY REPORT NUMBER

11. SUPPLEMENTARY NOTES

12a. DISTRIBUTION / AVAILABILITY STATEMENT

Distribution Unlimited

12b. DISTRIBUTION CODE

13. ABSTRACT (Maximum 200 words)

The Army Materials Technology Laboratory (MTL) in Watertown, Massachusetts is scheduled for closure. As part of the closure process, a Remedial Investigation Feasibility Study (RI/FS) is being conducted by ROY F. WESTON, INC. (WESTON). This document, the Human Health Evaluation, uses data obtained during the RI and develops human health risks for use in the building FS. The objective of this report is to evaluate the potential for risks to future human populations that could use MTL buildings either in an occupational or residential setting. This evaluation is intended to provide the necessary information to decide what remedial actions may be necessary to clean-up the buildings in preparation for reuse. It was determined that the risk to future populations exceeds criteria established by the Massachusetts Department of Environmental Protection.

14. SUBJECT TERMS

15. NUMBER OF PAGES

16. PRICE CODE

17. SECURITY CLASSIFICATION OF REPORT

Unclassified

18. SECURITY CLASSIFICATION OF THIS PAGE

Unclassified

19. SECURITY CLASSIFICATION OF ABSTRACT

Unclassified

20. LIMITATION OF ABSTRACT

Unclassified

TABLE OF CONTENTS

| | <u>PAGE</u> |
|---|-------------|
| LIST OF ACRONYMS | ii |
| SECTION 1 INTRODUCTION AND BACKGROUND | 1-1 |
| 1.1 SCOPE OF THIS REPORT | 1-1 |
| 1.2 APPROACH AND METHODOLOGY | 1-1 |
| 1.3 ORGANIZATION | 1-2 |
| SECTION 2 DATA EVALUATION AND SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN | 2-1 |
| 2.1 AVAILABLE MONITORING DATA | 2-1 |
| 2.2 SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN . . | 2-1 |
| SECTION 3 INDOOR EXPOSURE ASSESSMENT | 3-1 |
| 3.1 THE PHYSICAL SETTING | 3-1 |
| 3.2 DEVELOPMENT OF EXPOSURE PROFILES | 3-1 |
| 3.3 QUANTIFICATION OF EXPOSURE | 3-3 |
| 3.3.1 EXPOSURE POINT CONCENTRATIONS | 3-4 |
| 3.3.2 CALCULATION OF HUMAN INTAKE FACTORS | 3-8 |
| SECTION 4 TOXICITY ASSESSMENT | 4-1 |
| 4.1 NONCARCINOGENIC EFFECTS | 4-1 |
| 4.2 CARCINOGENIC EFFECTS | 4-1 |
| 4.3 DERMAL TOXICITY VALUES | 4-3 |
| SECTION 5 RISK CHARACTERIZATION | 5-1 |
| 5.1 EVALUATION OF CARCINOGENIC RISKS | 5-1 |
| 5.2 EVALUATION OF NONCARCINOGENIC EFFECTS | 5-2 |
| 5.3 EVALUATION OF RISKS FROM EXPOSURE TO LEAD | 5-4 |
| 5.4 RISK CHARACTERIZATION SUMMARY | 5-4 |
| SECTION 6 UNCERTAINTY ANALYSIS | 6-1 |
| SECTION 7 REFERENCES | 7-1 |
| APPENDIX A DETAILED EXPOSURE AND RISK CALCULATIONS | A-1 |

LIST OF ACRONYMS

| | |
|-------|--|
| DU | Depleted Uranium |
| EPC | Exposure Point Concentration |
| HEAST | Health Effects Summary Tables |
| HI | Hazard Index |
| HIF | Human Intake Factor |
| HQ | Hazard Quotient |
| ICRP | International Commission on Radiological Protection |
| IEUBK | Integrated Exposure Uptake Biokinetic Model |
| IRIS | Integrated Risk Information System |
| LOAEL | Lowest-Observed-Adverse-Effect Level |
| MDEP | Massachusetts Department of Environmental Protection |
| MTL | Materials Technology Laboratory |
| NOAEL | No-Observed-Adverse-Effect Level |
| QA/QC | Quality Assurance/Quality Control |
| RfD | Reference Dose |
| RI/FS | Remedial Investigation/Feasibility Study |
| SF | Slope Factor |
| TEF | Toxicity Equivalence Factor |
| UBK | Uptake/Biokinetic Model |

SECTION 1

INTRODUCTION AND BACKGROUND

1.1 SCOPE OF THIS REPORT

The Army Materials Technology Laboratory (MTL) in Watertown, Massachusetts is scheduled for closure and realignment. Prior to the sale or reuse of any MTL property environmental investigations are required. One of these, a Remedial Investigation/Feasibility Study (RI/FS) conducted by Roy F. Weston, Inc. (WESTON®), is nearing completion. A risk assessment, documenting exposures and risk to chemicals detected in soils, river water and river sediments, was completed as part of that effort (WESTON, 1993).

One of the exposure pathways not included in the development of exposure profiles for the possible future reuse of the MTL was that of exposures from contamination released during activities conducted within the buildings and subsequently adhering to interior building surfaces. Human exposure to chemicals adsorbed to particulates deposited on walls and floors can occur during human activities inside a building. Particulates deposited on interior walls can be resuspended into the air or can adhere to skin during contact with the wall surface. Resuspended dust can also deposit on food, food serving items or skin and be available for exposure. Thus, exposures can occur by inhalation, ingestion, or dermal absorption.

The objective of this risk assessment is to evaluate the potential for risks to future human populations that could use MTL buildings either in an occupational or residential setting. This evaluation is intended to provide the necessary information to decide what remedial actions may be necessary to clean up the buildings in preparation for reuse.

1.2 APPROACH AND METHODOLOGY

Risk assessments, in general, are four-step processes. First the sampling results are reviewed to determine what chemicals should be evaluated. Secondly, there is an analysis to decide if those chemicals are present at or could migrate to places where people are likely to come in contact with contamination. This is termed the exposure assessment and an attempt is made to actually quantify how often and how much a person could be exposed at a given location. In the third step, the information regarding how toxic a chemical could be is assembled using information both from animal studies and reports of human exposures. In the last step, estimates of risks are calculated using the information developed in both the exposure assessment and the toxicity assessment (Steps 2 and 3). Once those estimates are generated, a number of statements regarding how certain or uncertain they are must be made. This allows the reader to better understand where conservative and nonconservative assumptions are made and their effect on the estimated risk numbers.

When quantifying pathways involving contamination inside a building, however, there is no generally acceptable methodology for estimating how much of a chemical on a wall or floor is actually available for exposure. In other words, there is no direct way to measure the amount of material on building surfaces that could be released into the air as dust, given activities that are likely to occur inside a home or workplace. Likewise, there is no generally accepted method for determining how much of the material on walls or floors might be ingested by a worker or a resident in these buildings or how much might be absorbed through the exposed skin of these people. Estimates of these types of exposures, however, have been made by others and their assumptions are described and utilized in this assessment. Where appropriate, this technical information is referenced in the following sections of this report. With the exception noted above, procedures used in this risk assessment are consistent with guidance from the Massachusetts Department of Environmental Protection (MDEP) for evaluating risk from residential exposures (MDEP, 1992) and for conducting risk characterizations according to the Massachusetts Contingency Plan (MDEP, 1993).

1.3 ORGANIZATION

This report consists of six sections in addition to this introduction. These sections are as follows:

- Section 2: Data Evaluation and Identification of Chemicals of Potential Concern
- Section 3: Indoor Exposure Assessment
- Section 4: Toxicity Assessment
- Section 5: Risk Characterization
- Section 6: Uncertainty Analysis
- Section 7: References

The detailed exposure and risk calculations are contained in Appendix A.

SECTION 2

DATA EVALUATION AND SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN

2.1 AVAILABLE MONITORING DATA

During Phase 2 of the RI, WESTON conducted a comprehensive indoor surface wipe sampling program throughout the installation. Approximately 300 rooms in 16 buildings and the bunkers were sampled. Details of the sampling protocols (including quality assurance and quality control (QA/QC) requirements) and room locations are included in the Phase 2 RI (WESTON, 1993). The data were evaluated against procedures established for the RI and were judged suitable for the purpose of risk characterization. Results of the wipe sampling effort are summarized in Table 2-1.

Additional wipes were taken from several other buildings in the Watertown area. These were considered representative of background conditions. The off-site background wipe samples were collected from the following buildings in Watertown:

The Watertown Firehouse
R.H. Green Co., a lumber/hardware vendor
Hellenic Council Center
Cuniff Elementary School

Sixteen inorganic chemicals and seven organic compounds (four of which were pesticides) were detected at least once. The range of detected values in the background samples are summarized in Table 2-2.

2.2 SELECTION OF CONTAMINANTS OF POTENTIAL CONCERN

A total of 82 chemicals were detected in at least one wipe sample. Every inorganic chemical analyzed for was detected and usually at a fairly high frequency (30 to 50%). Thirty-two semivolatile compounds were detected at fairly low frequencies (<5%), except for several phthalates and polycyclic aromatic hydrocarbons. Nineteen pesticides were detected; DDT was found most frequently. Two Aroclors (polychlorinated biphenyl compound mixtures) also were detected at frequencies ranging from 10 to 14%. Three explosives compounds were detected: 2,4-dinitrotoluene, 2,4,6-trinitrotoluene (TNT) and RDX. The TNT was detected only in one bunker sample.

Thirty-three of these detected chemicals were subsequently eliminated from risk quantification. Chemicals are eliminated from risk quantification in an attempt to focus on those contaminants which would strongly influence the overall quantitative health assessment.

Chemicals detected infrequently or chemicals that are also essential human nutrients are typically minor contributors to risk estimates.

In this risk assessment, essential nutrients were excluded based on a comparison of an estimated daily dose to a nutritive level. This comparison is detailed in Table 2-3.

Further elimination of certain compounds was accomplished based on an infrequent detection criteria of less than 5%. Before the decision was made to eliminate infrequently detected chemicals two other criteria were evaluated: concentration range and spatial distribution. For all chemicals proposed for elimination based on infrequent detection, the maximum hits were not elevated with respect to their reported detection limits. In order to evaluate possible spatial patterns, the hits for each chemical were plotted on the figures from Appendix I in the RI report. There did not appear to be any specific clustering of any of these chemicals in a specific building or within a suite of rooms within a given building. In only one instance was an infrequently detected chemical detected more than once in a given room. In several instances an infrequently detected chemical was detected in two contiguous rooms. In only one instance was an infrequently detected chemical detected in a suite (4) of rooms. Benzyl alcohol was detected in the floor composite (but not the walls) of Rooms 201, 201, 206 and 207 on the second floor of Building 39. This was not considered significant enough to include this chemical in the quantitative risk evaluation.

There are several chemicals for which toxicity information is unavailable. These five chemicals cannot, therefore, be quantitatively evaluated for risk. Chemicals eliminated and the reason for their elimination are listed in Table 2-4. The remaining chemicals (Table 2-5) are the chemicals of potential concern.

SECTION 3

INDOOR EXPOSURE ASSESSMENT

Exposure is defined as the contact between an individual and a chemical of potential concern. The magnitude of this contact is determined by estimating how much of the chemical is available for absorption at one of the body's exchange boundaries (i.e., the intestinal tract, the lungs, or the skin) during a specified period of time. Determining the type and magnitude of this exposure to the chemicals of potential concern is the objective of an exposure assessment. This section identifies the types of possible future indoor exposures at the MTL site and estimates the potential magnitude, duration, and frequencies of exposure for those exposure pathways.

3.1 THE PHYSICAL SETTING

The physical characteristics of the MTL site are described in detail in the RI (WESTON, 1993). Information regarding the buildings, which constitute the physical setting for this risk assessment, is presented below.

The MTL site includes 30 buildings; approximately ten of these are major structures used for Army research, development, testing and manufacturing. Past and present uses of the buildings are described in the RI (WESTON, 1993); Table 3-1 summarizes the uses of those buildings involved in the chemical wipe sampling effort.

3.2 DEVELOPMENT OF EXPOSURE PROFILES

The exposure assessment for MTL (WESTON, 1993) identified three possible future uses at the MTL: commercial, residential, or open space and divided the site into four reuse zones, or areas of exposure (Figure 3-1). In addition, there may be possible zones of mixed use (i.e., residential and commercial uses combined). These zones are therefore the source components of this indoor risk assessment since they are the areas where buildings currently exist and contain chemically contaminated interior surfaces. Zone 1 contains only Building 243, which is a metal storage shed unsuitable for either residential or prolonged occupational habitation. The only building located in Zone 4 is the Commander's Residence, which does not appear to be contaminated. Therefore the sources (buildings) considered in this risk assessment are those sampled in Zones 2 and 3.

Three exposure scenarios are possible, based on the most likely future use of buildings at the MTL:

Scenario 1 assumes future residential use of the buildings in the proposed residential or residential/commercial zones (Zones 2 and 3) following considerable renovation, during which the majority of the contamination on interior surfaces is removed. Once renovation is

complete, further releases are unlikely, thus eliminating the potential for significant exposure to future residents. During this activity the most likely exposed population is the adult renovator.

Scenario 2 assumes future residential use of the buildings in the proposed residential or residential/commercial zones, without significant renovation or refurbishing. In this scenario both adult and child residents would be exposed to contaminated surfaces.

Scenario 3 assumes future commercial use (office or factory) of the buildings in the proposed residential/commercial zones, without significant renovation or refurbishing. In this scenario the most likely exposed individual would be an adult working in these areas.

The exposure pathways that are relevant for these scenarios include: inhalation of contaminated materials resuspended from the building surfaces, ingestion of contaminated material on or from the building surfaces and dermal contact with contaminated surfaces or secondarily from other surfaces where resuspended dust accumulates.

During its operational history, activities at MTL released contaminants from testing or manufacturing that were subsequently deposited onto and adhered to building walls, floors and associated structures. Depending on future activities within these buildings this contamination can be resuspended and become available for inhalation. Renovation activities such as wall removal, floor replacement, sanding, scraping, etc. are expected to generate more resuspended material (i.e., dust) than those activities that might occur during routine activities in a home or work setting. In a residence, sweeping, dusting, vacuuming and even simple ventilation can produce dust. This dust can be either inhaled by a receptor or deposited onto other building surfaces and thus become available for subsequent resuspension. The chemical wipe samples provide some measure of the identities and concentrations of contaminants that are removable by a physical process (i.e., wipes) and thus could be considered somewhat representative of the processes likely to result in resuspended material.

Incidental ingestion of surface contamination occurs by several means, all of which are difficult to measure. In some instances resuspended material can be deposited on food or serving items and ingested along with food. Additionally, some ingestion can occur by coming directly in contact with contaminated surfaces. In this case, contamination is transferred from the body surface to the mouth and swallowed. This touching and hand-to-mouth behavior is more likely to occur with small children and in adults while eating, drinking or smoking.

Dermal exposures require some sort of actual contact by bare skin to either the contaminated surfaces or by dust falling directly on bare skin. A portion of the contamination is subsequently absorbed across the skin. This type of exposure would be unlikely for a renovator who would be protected by clothing during his/her time spent in a given building.

The exposed skin of hands of residents and workers is the most likely body part to come in contact with contaminated surfaces.

3.3 QUANTIFICATION OF EXPOSURE

The output of the exposure assessment process is the calculation of an average daily intake of the chemicals of potential concern. The intake is a measure of exposure expressed in terms of the contaminant mass at the body exchange boundary per unit body weight per day (mg/kg-day). To calculate intakes, the following general equation is used:

$$DI = C \cdot (CR \cdot EFD/BW)(1/AT) \quad (1)$$

where:

- DI = Intake; the average amount of the chemical at the body's exchange boundary (mg/kg-day).
- C = Chemical concentration; the amount of a chemical that comes in contact with the body during the exposure period (mg chemical/unit environmental medium).
- CR = Contact Rate; the amount of contaminated medium contacted per unit time or event.
- EFD = Exposure Frequency and Duration; how long and how often exposure occurs. The EFD term is usually calculated from two terms, the exposure frequency, EF (usually expressed in days/year) and the exposure duration, ED (usually expressed in years).
- BW = Body Weight; the average body weight over the exposure period (kg).
- AT = Averaging Time; the period over which exposure is averaged (days).

All of the elements of the equation, with the exception of "C," can be combined into a pathway and population-specific term called the Human Intake Factor (HIF). Thus, the equation can be more simply expressed as:

$$DI = C \cdot HIF \quad (2)$$

In general, the values of C and/or HIF may depend on time, so it is necessary to calculate DI values for subchronic (14 days to 7 years), chronic (7 years or more), or lifetime (70 years) exposure periods. Thus, equations for estimating subchronic, chronic and lifetime average daily intake can be written as:

$$DI_s = C_s \cdot HIF_s \quad (\text{subchronic}) \quad (3)$$

$$DI_c = C_c \cdot HIF_c \quad (\text{chronic}) \quad (4)$$

$$DI_L = C_L \cdot HIF_L \quad (\text{lifetime}) \quad (5)$$

Many of the values selected are those that represent an average or mid-range of the possible values that could be used. Therefore, use of these values for the variables in this equation provide a realistic yet adequately conservative estimate of risk (MDEP, 1992; MDEQE, 1989). Since a degree of conservatism is employed in these risk calculations, the estimates are not likely to underestimate true risk, but rather to provide some measure of protectiveness.

Quantification of exposure thus is undertaken in two stages: estimation of exposure point concentrations (i.e., EPCs or the "C" term in the equation) and calculation of HIFs.

3.3.1 EXPOSURE POINT CONCENTRATIONS

Interior Surfaces

It is not known how each room sampled in each of the buildings could eventually be used. Human activity patterns in a residential suite of contiguous rooms would be impossible to predict without having detailed reuse plans, which are not available.

In an occupational setting, one or two rooms could be used almost exclusively by a given worker. However, since 855 wipe samples were analyzed from more than 300 rooms in 16 buildings at MTL, it is impractical and not necessary to evaluate potential exposures in each room of every building.

Representative (i.e., of contamination and likely unacceptable risk) exposure points can be chosen to determine whether or not remediation is required in those areas. Whether or not rooms in other buildings require cleanup will be the focus of the Feasibility Study. This will be accomplished by the application of cleanup goals based on the exposure scenarios developed in this risk assessment. The selection of representative exposure points was accomplished by determining the most highly contaminated buildings through inspection of the chemical levels detected in the wipe samples. The chemical wipe data base was examined to determine the locations of the highest concentrations ($\mu\text{g}/\text{cm}^2$) of the most potent carcinogens and noncarcinogens.

All carcinogenic chemicals (both oral and/or inhalation) and noncarcinogens with low Reference Doses (i.e., approximately $1\text{E-}3$ mg/kg-day or lower, both oral and inhalation) detected in wipe samples were included in this exercise. Preliminary target concentrations for each chemical were calculated based on a conservative target risk level. The sampling database was then queried to determine which wipe samples were above that concentration. Finally, multiple occurrences of these exceedances in individual buildings were tabulated.

Clustering of these exceedances was then used to select buildings as representative exposure points. The distributions of these chemicals tended to cluster in five buildings (numbers 37, 39, 311, 312, 313). Three of these buildings are in reuse Zone 2; the other two are in reuse Zone 3. Thus, these five locations were selected to represent exposure areas in this risk assessment.

Each of these buildings contains multiple rooms (20 to 86), which were sampled. It would be difficult to predict a given individual's pattern of time spent in any given room or collection of rooms. If this were known, an exposure point concentration could be calculated that would take into consideration a time or area weighting adjustment to account for specific human activities. It was, therefore, assumed that exposure would occur randomly across all rooms in a given building. Under this assumption, the arithmetic average of all samples available for a building was considered to be representative of the chemical contamination in that building.

Not every chemical of potential concern was detected in every wipe sample. Handling data reported below the detection limit can be accomplished one of three ways. If all nondetects are assigned the value of the detection limit, then the resulting exposure point concentration would be biased high, which is a very conservative approach. Using one-half the detection limit assumes that, on average, all values between zero and the detection limit are possible. This, too, is a relatively conservative approach. The third approach, which was used in this assessment, assumes that undetected chemicals are indeed absent. This is a reasonable assumption since the wipe sampling effort was biased toward areas of obvious or known contamination or release. A value of zero was, therefore, used as a surrogate in calculating EPCs if a chemical were not detected in a given wipe sample. Tables 3-2 through 3-6 document the resulting EPCs on building surfaces. These EPCs (mg/m²) are used in quantifying intakes for the oral and dermal pathways.

Indoor Air

In order to evaluate inhalation exposures, an estimate of the amount of particulates, or dust, that could be released into air from contaminated building surfaces must be made. The relationship between surface concentration and the resulting airborne concentration is termed the resuspension factor. A resuspension factor of 1E-06 m⁻¹ means that of one million units of surface contamination per m², one unit per m³ is released, that is, becomes airborne. This factor has been measured experimentally under a variety of conditions.

Measured resuspension factors are highly variable. Values ranging from 10⁻¹¹ to 10⁻² have been reported in the literature. This high degree of variability is not unexpected since resuspension factors are dependent on many variables, including:

- The type of activity in progress during measurements, including how often and how vigorously the activity occurs.

- The nature of the contaminant (both chemical structure and physical state) and how it was deposited on the surface (i.e., as a liquid, or particle deposition from air, etc.).
- The physical characteristics of the surface material, (e.g., porosity).
- The size of the area in the measurement study (the room).
- The ventilation characteristics of the area involved.
- The methodology used for measuring the surface contamination.
- The methodology used for measuring the air concentrations.

Results of experimentally derived resuspension factors from a review of the literature (Sansone, 1987) that may be representative of future MTL activities are included in Table 3-7. Virtually all the factors that influence the resuspension of surface contamination within MTL buildings are unknown.

None of the experiments described in Sansone (1987) and presented in Table 3-7 were conducted under typical residential activities. Most, however were conducted under a variety of occupational situations. Inspection of these values indicates a range of nearly $1\text{E-}09$ to $1\text{E-}02 \text{ m}^{-1}$. Any of these numbers is likely to represent some type of commercial or industrial activity that could be part of the reuse of the MTL buildings. This limited information does not lend itself to any rigorous statistical evaluation that could support selection of one value over another. The data in Sansone (1987) and Table 3-7 do suggest that more vigorous activity increases resuspension. Intuitively, it seems reasonable to assume that major renovation activities correspond to more vigorous activities as described in the experimental studies. Therefore a higher resuspension factor is appropriate for evaluating the renovation scenario.

In order to select a value so that the air pathway could be quantified, the studies listed on Table 3-7 were further categorized as to whether each represented a typical occupational or a more intense renovation scenario. Each category was ordered (high to low) in regard to the resuspension value reported. The values varied across four to six orders of magnitude; however, in each category the distribution centered about one order of magnitude (10^{-5} for routine occupational; 10^{-4} for vigorous occupational). This range also included the approximate median value (Table 3-8). Therefore, a resuspension factor of $1\text{E-}05 \text{ m}^{-1}$ for future commercial reuse was selected, and a resuspension factor of $1\text{E-}04 \text{ m}^{-1}$ was selected for the renovation scenario.

In the absence of any information regarding a resuspension rate under residential conditions, the value assumed for routine occupational activities ($1\text{E-}05 \text{ m}^{-1}$) is adopted for residential scenarios. This value is probably very conservative. It must be remembered that the experimental studies measured resuspension during a specific activity and not over long periods of relative inactivity that might be expected under residential conditions. For example, during the night when an entire household is asleep a case could be made that virtually no resuspension (except that caused by air movement though the room) would be occurring. Thus, any measure of contamination in the air of the MTL buildings under any reuse scenario is subject to considerable uncertainty.

The concentration of contaminant in air is calculated as follows (DOE 1992):

$$C_{\text{air}} = \frac{C_{\text{surface}} \cdot F \cdot A}{V \cdot N} \quad (6)$$

where:

- C_{air} = Concentration of contaminant in air (mg/m^3)
- C_{surface} = Concentration of contaminant on the interior surface (mg/m^2)
- F = Resuspension factor (hr^{-1}), fraction of dust resuspended
- A = Area of contamination
- V = Volume of the room
- N = Ventilation rate (number of air changes per hour)

In a room about 12 by 15 by 8 feet, A is 20 m^2 , V is 41 m^3 and N is assumed to be 0.5 /hr (DOE, 1992). The ventilation rate assumed representative of either a commercial or residential reuse of the buildings is $0.5 \text{ air changes/hour}$. McKone (1987) used this as a typical value in an indoor assessment of organic compounds volatilizing from indoor uses for groundwater. Fingleton et al. (1992) assumed the same value in an assessment of an abandoned building at a Department of Energy site. Nazaroff et al. (1987) analyzed data from two studies of air exchange rates in over 500 homes during the heating season. The mean value was determined to be $0.68 \text{ air exchanges per hour}$. Becker and Lachajczyk (1984) assumed a typical air exchange rate for a home of $1 \text{ air change per hour}$ in an assessment of radon in indoor air. In the absence of any information on commercial building uses, the same value of $0.5/\text{hr}$ was assumed for a commercial reuse scenario.

The concentration in air is, therefore, approximately the concentration on the wall multiplied by the resuspension factor. Since the amount of material available for resuspension is finite, the initial air concentration is expected to be depleted over time. However, the above equation assumes that the resuspension rate approximately equals the loss by ventilation. Thus, it was conservatively assumed that the air concentration is constant over time.

3.3.2 CALCULATION OF HUMAN INTAKE FACTORS

In the general equation for calculating human intake (Equation 1), the HIF incorporates the terms describing exposure relative to human activity. The value of the HIF term in calculating chemical intakes depends on the specific exposure scenario being evaluated. An HIF value is calculated individually for each exposed population, for each medium, for each exposure route and for each exposure duration. In general, an HIF value is comprised of three terms:

- A contact-rate term that describes the quantitative intake of a medium (e.g., mg of soil or L of water) by a person on a day when exposure occurs.
- A body-weight term (kg).
- A series of time correction factors that account for the fact that exposure does not occur every day during the time period of interest. These variables include exposure time (hours/day), exposure frequency (days/year), and exposure duration (years). These factors are divided by the period (in days) over which exposure is averaged.

Human intake factors are derived for the four assumed populations described earlier. Three of these populations (the adult and child resident and the commercial worker) are the same populations in the risk assessment prepared as part of the RI (WESTON, 1993). For these populations the assumptions regarding body weight, exposure frequency and duration, and averaging times remain the same. The fourth population, the renovation worker, is assumed to work on site for a one-year period (250 days of that year) and weigh 70 kg. Exposure factors unique to indoor pathways are described below.

Inhalation

The breathing rate for a worker is estimated to be 1.2 m³/hour under normal work conditions, based on International Commission on Radiological Protection (ICRP) (1975) guidance. This rate is reasonable for an office worker; however, the renovation worker was evaluated using the EPA (1991) recommended value of 20 m³/ per workday, since this work is likely to involve more physical activity and thus a higher breathing rate. The future resident adult was assumed to have a breathing rate of 15 m³/day for indoor air (EPA 1991). Based on assumed activity patterns, the same rate was used for a resident child.

It is also assumed that 20% of resuspended dust is respirable.

Ingestion

Ingestion of material from surface contamination inside buildings can occur after material is transferred to hands, food or other items that ultimately enter the mouth. A number of exposure assessments have attempted to quantify this secondary ingestion rate, for both occupational and residential scenarios. These estimates range from $8\text{E-}04$ to $1\text{E-}03$ m^2 per day for workers and $2\text{E-}03$ to $7\text{E-}02$ m^2 for continuous (24-hour) residential exposures (as reported in Kennedy, 1992). Hawley (1985) assumed that a person could ingest all contamination from a 10 cm^2 (0.001 m^2) area of a contaminated surface every day under normal living conditions. This would result in a secondary ingestion rate of $1\text{E-}03$ m^2/day . This is the value assumed in this risk assessment. For workers, it is unlikely that all surface contamination would be subsequently ingested since occupational activity patterns involve fewer mouthing-type activities, especially with food preparation and ingestion. Thus it was assumed that only 10% of the contamination from a 10 cm^2 area is subsequently ingested. This results in a secondary ingestion rate of $1\text{E-}04$ m^2/day for workers. This value is within the range of assumed values used in other similar assessments (Kennedy, 1992).

Dermal

Dermal exposure to contaminated building surfaces is dependent on the skin area that comes in contact with the contaminated surfaces, the duration of the contact, the bond between the contaminant and the surface and the ability of the chemical to penetrate the skin. For the renovation worker, it is expected that little bare skin will be available for exposure. A renovator is most likely to be protected by wearing a work uniform of some sort, complete with gloves and boots. Therefore dermal exposures for this population are considered insignificant and are not quantified. For both commercial workers and residents, hand contact is likely to result in the only substantial dermal exposure.

The surface area of hands is approximately 5.7% of the total body surface area for children (MDEQE, 1989). For adults the percentage is approximately 5.2% (USEPA, 1991). These percentages were applied to total body surface areas previously assumed (WESTON, 1993). It was further assumed that this contact transferred 10% of the contamination from the building surface to the skin. This activity was estimated to occur once a day for each day of exposure within a building.

The calculation of HIF terms for all four populations is shown in Tables 3-9 through 3-11.

Average daily intakes are calculated using both the exposure point concentrations and the human intake factors from this section. Subchronic, chronic and lifetime intakes are documented in detail in the worksheets in Appendix A.

SECTION 4

TOXICITY ASSESSMENT

The adverse health effects of a chemical generally depend upon the inherent toxicity of the compound and the level (intake), route (oral, inhalation or dermal) and duration (subchronic, chronic or lifetime) of exposure. This section summarizes relevant information on the adverse health effects of chemicals of potential concern used in risk calculations.

Detailed toxicity summaries for each chemical of potential concern were provided in Appendix R of the RI (WESTON, 1993).

4.1 NONCARCINOGENIC EFFECTS

When data permit, the EPA derives numeric values that are useful in quantifying the toxicity and carcinogenicity of a compound. For noncancer health effects, these values are termed Reference Doses (RfDs). A Reference Dose is a conservative estimate of the average daily dose of a chemical (mg chemical per kg body weight per day, or mg/kg-day) that is without risk of any noncancer health effects in humans, including sensitive subpopulations. An RfD is specific for a given exposure route (oral, inhalation) and for a given exposure period -- subchronic for two weeks to seven years, chronic for seven years to a lifetime (EPA, 1989). An RfD is usually calculated from experimental data that identify the No-Observed-Adverse-Effect Level (NOAEL) or the Lowest-Observed-Adverse-Effect Level (LOAEL) in animals or humans. In order to provide a margin of safety, the RfD is taken to be the NOAEL or LOAEL divided by an appropriate uncertainty factor. Because the quality and quantity of toxicologic data available to support derivation of RfD values vary among chemicals, the EPA also provides an indication of the overall confidence associated with each RfD value. In general, the lower the confidence, the more conservative the EPA is in deriving the RfD.

Tables 4-1 and 4-2 provide brief summaries of the critical noncarcinogenic effects of the chemicals of potential concern at this site and list oral and inhalation RfDs for subchronic (RfD_s) and chronic (RfD_c) exposures and their confidence categories. For a number of the PAHs the dose-response data are too limited to support the derivation of an RfD. However, it is likely that these PAHs produce noncarcinogenic effects at doses similar to those of PAHs with a similar chemical structure. Therefore, RfD extrapolations were made for PAHs lacking RfD values, based on structural similarities with PAHs that have RfD values. These extrapolations include applying the RfD for acenaphthene to acenaphthylene, applying the RfD for pyrene to phenanthrene and applying the RfD for naphthalene to any other PAH.

4.2 CARCINOGENIC EFFECTS

For cancer, the numeric descriptors of carcinogenic potency are termed Slope Factors (SFs). These are route-specific, upper-bound estimates of the slope of the cancer dose-response

curve at low doses. (It is assumed the curve is linear in this region, and passes through the origin). The units of the SFs are (mg/kg-day)⁻¹. In addition, EPA assigns a cancer weight-of-evidence category to each chemical in order to reflect the overall confidence that the chemical is likely to cause cancer in humans. These categories and their meanings are summarized below.

| <u>Category</u> | <u>Meaning</u> | <u>Basis</u> |
|-----------------|---|--|
| A | Known human carcinogen | Sufficient evidence of increased cancer incidence in exposed humans. |
| B1 | Probable human carcinogen | Limited evidence of carcinogenicity in humans. |
| B2 | Probable human carcinogen | Sufficient evidence of increased cancer incidence in animals, but lack of data or insufficient data from humans. |
| C | Possible human carcinogen | Suggestive evidence of carcinogenicity in animals. |
| D | Cannot be evaluated | No evidence or inadequate evidence of cancer in animals or humans. |
| E | Evidence of noncarcinogenicity for humans | No evidence of carcinogenicity in adequate studies. |

Table 4-3 provides a brief summary of the characteristic cancer effects of chemicals of potential concern at this site and lists available oral and inhalation SFs and cancer weight-of-evidence categories. For all carcinogenic PAHs, except benzo(a)pyrene, the dose-response data are too limited to support the derivation of a slope factor. There are two basic approaches by which the slope factor of benzo(a)pyrene can be applied to each carcinogenic PAH. By the first approach, all carcinogenic PAHs are assumed to be as potent as benzo(a)pyrene and therefore no adjustments are made to the slope factor. By the second approach, each carcinogenic PAH is assigned a toxicity equivalence factor (TEF) by which the slope factor of benzo(a)pyrene is multiplied. This former approach was utilized in this risk assessment.

Very little information is available regarding the specific chemical form(s) or valence(s) of the metals in environmental media at this site. Therefore, in order to be conservative, it is assumed that the metals are present in their most toxic forms. Thus, chromium is evaluated as if it were present in its hexavalent, and more toxic, form.

4.3 DERMAL TOXICITY VALUES

Dermal toxicity values are based on an absorbed dose (rather than the exposed or administered dose), since dermal intakes are calculated as absorbed doses. The EPA has not as yet established any dermal toxicity values. Therefore, approximate values were derived by extrapolation from oral toxicity values. This was done by multiplying the oral subchronic or chronic RfD values by the oral absorption fraction (AF_o), and dividing the oral slope factor by the AF_o . Absorption fractions are chemical-specific values obtained from the toxicological studies including, if available, the studies used in determining toxicity values.

This approach is based on the assumption that equal absorbed doses are equitoxic. Absorption fractions for inorganics developed by Owen (1990) are also used where specific data are not available. For all the organic chemicals of potential concern, AF_o was assumed to be 1.0 (i.e., 100% oral absorption). This reflects the fact that most organic compounds are fairly well absorbed from the gastrointestinal tract. Such an approach, however, may not always be conservative since a lower AF_o would result in a lower estimated dermal RfD or a higher slope factor. Risk, therefore, could be underestimated. No extrapolation from oral to dermal was performed for any PAHs, since these chemicals act at the point of contact (skin, stomach or lungs), so that inter-route extrapolation would be inappropriate. Table 4-4 summarizes dermal toxicity values used in this assessment.

In order to evaluate dermal exposure to dust, the fraction of the applied dose which is absorbed (ABS) is required for each chemical. These values have been determined for only two of the chemicals of potential concern (cadmium and PCB 1260) (EPA, 1992). For other chemicals, default values recommended by MDEP were used.

SECTION 5

RISK CHARACTERIZATION

Risk characterization integrates the results of the exposure and toxicity assessments into a quantitative description of potential cancer and noncancer risk estimates. The methods for risk characterization utilized in this baseline risk assessment are consistent with guidance provided in MDEP (1992) and EPA (1989).

5.1 EVALUATION OF CARCINOGENIC RISKS

The risk of cancer from exposure to a chemical is described in terms of the probability that an individual exposed for his or her entire lifetime will develop cancer by age 70. This value is calculated from the daily intake averaged over a lifetime (DI_L) and the chemical-specific slope factor (SF), as follows:

$$\text{Cancer Risk} = 1 - \exp(-DI_L \cdot SF) \quad (7)$$

In most cases (except where the product of DI_L and SF is greater than 0.01), cancer risk for a given carcinogen can be estimated more simply as:

$$\text{Cancer Risk} = DI_L \cdot SF_L \quad (8)$$

Slope factors have been derived by the EPA for a number of chemical carcinogens found at the MTL site, and each represents the incremental lifetime cancer risk per milligram of carcinogen per kilogram of body weight, assuming that the exposure occurs over a lifetime of 70 years. A slope factor is specific to the chemical and the route of exposure, (i.e., inhalation, dermal or ingestion). The total cancer risk is the aggregate of the individual cancer risks, summed across all chemicals of potential concern and all exposure pathways that contribute to exposure of an individual in a given population.

The daily intakes (averaged over a lifetime) resulting from exposure of populations assumed to be exposed to the carcinogens of potential concern at the MTL were estimated in Section 3; the slope factors for these carcinogens were provided in Tables 4-3 and 4-4. From these, estimated cancer risks were calculated using Equation 10. The chemical- and medium-specific calculations are presented in Appendix A. Owing to the inherent uncertainty in cancer risk calculations, all risk values are reported to only one significant figure.

Typically, MDEP requires remediation at a site when total excess cancer risk levels to any population exceeds 1E-05 (one in one hundred thousand) (MDEP, 1992). Table 5-1 summarizes the carcinogenic risks to future adult residents and workers.

Carcinogenic risks exceed the 1E-05 action level for each assumed reuse population at all five buildings, except for the worker populations in Buildings 311, 312 (commercial only) and 313. Risks to future residential populations range from 2E-04 to 6E-05. For commercial workers, risks range from 5E-05 to 5E-06. Even the relatively brief (1 year) exposure for the renovation worker poses unacceptable risk at two of the buildings (37, 39).

These risks are due primarily to beryllium, chromium, cadmium and PCBs.

5.2 EVALUATION OF NONCARCINOGENIC EFFECTS

The potential for chemical noncarcinogenic effects is evaluated by comparing an intake over a specific time period with the RfD derived for a similar exposure period. This comparison results in a hazard quotient, which provides a measure of the potential for adverse health effects other than cancer. For each individual contaminant, the daily intake averaged over the exposure period is divided by the RfD to derive the hazard quotient:

$$HQ = DI/RfD \quad (9)$$

where:

HQ = Hazard Quotient for subchronic (HQ_s) or chronic (HQ_c) exposure (unitless)

DI = Daily Intake (mg/kg-day), either from subchronic (DI_s) or chronic (DI_c) exposure

RfD = Reference Dose (mg/kg-day), either for subchronic (RfD_s) or chronic (RfD_c) exposure

The RfD is the average daily dose that could be incurred without an appreciable risk of deleterious health effects. Reference doses have been derived for both chronic (greater than seven years) and subchronic (less than or equal to seven years) exposure periods. Potential exposures for the 1- to 2-year-old child and renovation worker considered in this risk assessment are for periods of less than seven years; therefore, subchronic RfDs are considered appropriate for these potentially exposed populations. For the other populations, the exposure periods are longer and chronic RfDs apply.

The estimated average daily intakes resulting from exposure to the contaminants of concern at the site were presented in Section 3 and the RfDs for these contaminants were identified in Tables 4-1, 4-2 and 4-3.

For an individual contaminant, a hazard quotient of less than 1.0 indicates a nonhazardous situation. The hazard quotients for all contaminants and pathways affecting a given population for the same exposure period are summed to determine a hazard index (HI), namely:

$$HI = HQ_1 + HQ_2 + HQ_3 + \dots + HQ_i \quad (10)$$

where:

HI = Hazard Index for either subchronic or chronic exposure
HQ₁ = Hazard Quotient for the first chemical
HQ_i = Hazard Quotient for the ith chemical

If a screening level HI determined in this way is equal to or less than 1.0, it is presumed that noncarcinogenic health effects will not occur. If an HI exceeds 1.0, there is some possibility that noncarcinogenic effects could arise. This screening level approach assumes that all noncancer effects are additive. This, however, may not hold true in some cases. Effects caused by one chemical on a particular tissue or organ are not always influenced by the effects of another chemical on another tissue or organ (EPA, 1989). In instances where each contaminant-specific HQ is less than 1.0, but the sum of HQs is greater than 1.0, the major toxic effects of the individual contaminants are examined to determine the potential hazard associated with exposure to multiple contaminants. A hazard index of 1.0 is currently the MDEP Massachusetts Contingency Plan risk limit for noncancer health effects.

Detailed calculations for noncarcinogenic effects are presented in Appendix A. Because of the uncertainty inherent in the calculation of HQ values, all HQs are reported to only one significant figure. Hazard indices estimated for noncancer health hazards for populations evaluated for the site are summarized in Tables 5-2 and 5-3.

Subchronic hazard indices exceed 1E+00 for each population evaluated at all five buildings. For the resident child the calculated hazard indices ranged from 6 (Building 313) to 40 (Building 37). For the renovation worker, HI values ranged from 10 to 70 at the same buildings. Chromium is the major contributor to these HI values in all the buildings. The PCBs contribute to a lesser extent in Buildings 39 and 313.

Chronic hazard indices are all 1E+00 or below for the commercial worker and adult resident evaluated in all buildings (except Building 312). The only chemical-specific HQ that exceeded 1E+00 in any building, for any population was for cadmium (Building 312).

5.3 EVALUATION OF RISKS FROM EXPOSURE TO LEAD

Since there are no EPA-approved toxicity values for lead, it is not possible to evaluate the noncancer risks of lead exposure by calculation of a HQ or HI. This is because neither a clear toxicological threshold nor a cancer-type model (where a risk is associated with every level of exposure) has been defined for lead. Multiple sources (both indoors and outdoors) further complicate the assessment of risk. An alternative approach used in the baseline risk assessment prepared as part of the RI is to estimate the likely effect of lead exposure on the concentration of lead in the blood (PbB). Several mathematical models have been developed for calculating the value of PbB as a function of environmental concentrations of lead.

The model used in the previous risk assessment to predict blood lead levels was the Uptake/Biokinetic Model (UBK) which has been subsequently revised and renamed as the Integrated Exposure Uptake Biokinetic Model (IEUBK) for children (EPA, 1994). The model integrates exposures from all environmental media relevant to a young child. In its current stage (LEAD99d) the model includes a default value for indoor lead of $3\text{E-}05 \mu\text{g}/\text{m}^3$, which is based on a percentage of lead in outdoor air. The computerized model does not, at this time, allow for input of site-specific indoor air concentrations. Therefore, unacceptable levels of lead on surfaces will be determined in the Remedial Action Plan based on background levels, i.e., concentrations of lead detected on surfaces in residential buildings.

5.4 RISK CHARACTERIZATION SUMMARY

Exposure profiles were developed for two potential reuse scenarios of the existing buildings at the MTL -- residential and commercial. These scenarios took into consideration the fact that major renovation may be necessary prior to reuse. Thus, four populations were evaluated -- residential adults, residential children, commercial workers and renovation workers.

For residential reuse, carcinogenic risks exceed $1\text{E-}05$ at each of the five buildings evaluated. The primary contributors to these risks are beryllium, chromium, cadmium and PCBs. Carcinogenic risks due to the same chemicals to worker populations exceed $1\text{E-}05$ in several of the buildings evaluated. Subchronic hazard indices calculated for residents and renovation workers are all greater than or equal to $1\text{E}+00$, indicating a concern for noncancer adverse health effects. Chronic hazard indices were generally below a level of concern, except in Building 312 (cadmium). Although an acceptable methodology for determining the risks due to lead is not available, the assumed level of lead in the indoor air under a residential reuse scenario is approximately an order of magnitude higher than the assumed default used in the IEUBK (LEAD99d) model. Thus, it can be inferred that lead on surfaces in MTL buildings poses some concern if these buildings are to be used as residences where young children might live.

Cleanup goals are established for each of the chemicals of concern as part of the Remedial Action Report.

SECTION 6

UNCERTAINTY ANALYSIS

A number of factors introduce uncertainty into any exposure and risk estimate. A number of these were discussed in the RI risk assessment (WESTON, 1993). Those key factors and assumptions are also relevant here. The primary source of uncertainty in this risk assessment, however, is due to assumed methodology for translating detectable surface contamination into estimates of exposure.

The calculated risks presented in this risk assessment are estimates based on information currently available regarding redispersion of indoor surface contamination. They are highly uncertain -- the true values may be orders of magnitude different from these estimates.

Redispersion of indoor surface contamination in air is dependent on so many factors that quantification of risk from this source is extremely uncertain. Reported data for resuspension factors range over several orders of magnitude, even in an experiment with relatively constant and reproducible conditions (Sansone, 1987). Factors identified that influence the substantial variability of resuspension factors include:

- The vigor and frequency of human activity
- The fraction of transferable versus total surface contamination
- The nature of the contaminant -- particle size, density, other physical characteristics and whether it was applied as a solid, suspension or solution
- The characteristics of the surface material -- porous or impervious
- Ventilation rate
- The size of the contaminated surface area in relation to the total volume of the area

Based on all these factors, most of which are unknown at the MTL, the ability to predict airborne concentrations should be considered poor.

Risks calculations involving chromium conservatively used the toxicity values associated with hexavalent chromium. This form of chromium is considered much more toxic than trivalent chromium, which is generally more prevalent in the environment. If the chromium on the building surfaces is in fact trivalent, then the actual risk levels have been overestimated.

Exposure to residual chemical contamination on interior walls by ingestion, direct contact with bare skin or contact with resuspended dust accumulated on other surfaces is also highly uncertain. Estimates of ingestion rates cited in the literature also differ by more than an order of magnitude.

Two primary factors utilized in this risk assessment could result in an underestimate of risk. Although some PAHs are considered inhalation carcinogens, EPA has withdrawn the slope factor pending a review of the supporting toxicological data. Thus cancer risks due to PAHs via the inhalation route were not estimated, thereby underestimating risk by some unknown amount. The assumption that a chemical not detected is absent from a building surface may underestimate risk if that chemical is present at a level below that which the laboratory can measure. These two aspects of uncertainty are not likely to affect risk estimates to an extent that approaches the uncertainty associated with selection of an appropriate resuspension factor or other exposure factors related to contaminant intake from building surfaces.

It is recommended that the estimates presented here be used with a measure of caution. The most reasonable conclusion would be that the buildings do contain significant surface contamination related to Army activities and that a cleanup effort should be instituted to remove the contamination before the buildings can be used for residential or commercial purposes.

SECTION 7

REFERENCES

- Becker AP, Lachajczyk TM. 1984. Evaluation of waterborne radon impact on indoor air quality and assessment of control options. Research Triangle Park, NC: U. S. Environmental Protection Agency. EPA 600/7-84-093. Project Summary: EPA 600/S7-84-093.
- DOE. 1992. Baseline assessment for the chemical plant area of the Weldon Spring site. Oak Ridge, TN: Oak Ridge Field Office, U.S. Department of Energy.
- EPA. 1994. U. S. Environmental Protection Agency. Guidance manual for the integrated exposure uptake biokinetic model for lead in children. Washington, DC: Office of Emergency and Remedial Response. U. S. Environmental Protection Agency. EPA/540/R-93/081.
- EPA. 1993a. U. S. Environmental Protection Agency. Health Effects Summary Tables (HEAST), Annual FY 1993. Washington, DC: Office of Research and Development, U. S. Environmental Protection Agency. OERR 9200.6-303.
- EPA. 1993b. U. S. Environmental Protection Agency. Integrated Risk Information System (IRIS). Subsequent data retrieval on MTL contaminants.
- EPA. 1992. U. S. Environmental Protection Agency. Dermal exposure assessment: principles and applications, interim report. Washington, DC: Office of Health and Environmental Assessment, U. S. Environmental Protection Agency. EPA/600/8-91/011B.
- EPA. 1991. U. S. Environmental Protection Agency. Human health evaluation supplemental guidance: Standard default exposure factors. Washington, DC: Office of Solid Waste and Emergency Response, U. S. Environmental Protection Agency. OSWER 9285.6-03.
- EPA. 1989. U. S. Environmental Protection Agency. Exposure factors handbook. Washington, DC: Office of Health and Environmental Assessment, U. S. Environmental Protection Agency. EPA/600/8-89/043.
- Fingleton DJ, MacDonnell MM, Haroun LA. 1992. Assessing exposures and risks in heterogeneously contaminated areas: a simulation approach. Pasco WA: Proceedings of Environmental Radiation 1991 Conference, 871-876.
- Hawley J. 1985. Assessment of health risk from exposure to contaminated soil. Risk Analysis 5: 289-302.

ICRP. 1975. International Commission for Radiological Protection. Physiological data for reference man. In: Report of the task group on reference man. No. 23. New York, NY: Pergamon Press. pp. 335-365.

Kennedy WE Jr, Peloquin RA. 1992. Residual radioactive contamination from decommissioning. Richland, WA: Prepared by Pacific Northwest Laboratory for the U.S. Nuclear Regulatory Commission. NUREG/CR-5512, PNL-7212.

McKone TE. 1987. Human exposure to volatile organic compounds in household tap water: the indoor inhalation pathway. Environ. Sci. Technol. 21:1194-1201.

MDEP. 1992. Massachusetts Department of Environmental Protection User's Guide. Risk assessment short form. Residential exposure scenario. Version 1.6. Policy No. WSC/ORS-142-92.

MDEP. 1993. Massachusetts Department of Environmental Protection. Guidance for disposal site risk characterization and related Phase II activities in support of the Massachusetts Contingency Plan.

MDEQE. 1989. Massachusetts Department of Environmental Quality. Guidance for disposal site risk characterization and related Phase II activities in support of the Massachusetts Contingency Plan. 17 May, 1989.

NAS. 1989. National Academy of Sciences. Recommended dietary allowances. 10th Rev. ed. Washington, DC: National Academy of Sciences.

Nazaroff WW, Doyle SM, Nero AV, Sextro RG. 1987. Potable water as a source of airborne ^{222}Rn in U.S. dwellings: A review and assessment. Health Phys. 52:281-289.

Owen BA. 1990. Literature-derived absorption coefficients for 39 chemicals via oral and inhalation routes of exposure. Regulatory Toxicology and Pharmacology 11: 237-252.

PNL. 1982. Accident generated particulate materials and their characteristics - a review of background information. Richland, WA: Prepared by Pacific Northwest Laboratory for the U.S. Nuclear Regulatory Commission. NUREG CR-2651.

Sansone EB. 1987. Redispersal of indoor surface contamination and its implications. In: Mittal KL, ed. Treatise on clear surface technology. Vol. I. Plenum Publishing Corporation. pp. 261-290.

WESTON. 1993. Roy F. Weston, Inc. Phase 2 Remedial investigation report. Army Materials Technology Laboratory. Prepared for the U.S. Army Environmental Center. Contract Number DAAA15-90-D-0009.

TABLES AND FIGURES FOR TR-1423-5B

**TABLE 2-1 SUMMARY OF FREQUENCY OF DETECTION AND RANGE OF
CONCENTRATION OF CHEMICALS IN MTL CHEMICAL WIPE SAMPLES**

| Chemical | Building Interior Wipe Samples | | | | | |
|--------------------------------|--------------------------------|-------|--|---------|---|----------|
| | Frequency of Detection | | Range of Detected Values ($\mu\text{g}/\text{cm}^2$) | | Range of Detection Limits ($\mu\text{g}/\text{cm}^2$) | |
| | Hits | Total | Minimum | Maximum | Minimum | Maximum |
| Aluminum | 847 | 854 | 0.0154 | 140 | 0.028 | 0.112 |
| Antimony | 38 | 854 | 0.0126 | 3.63 | 0.0327 | 980 |
| Arsenic | 87 | 837 | 0.00627 | 7.1 | 0.00417 | 0.833 |
| Barium | 671 | 854 | 0.00675 | 20.4 | 0.00107 | 0.0329 |
| Beryllium | 76 | 854 | 0.00124 | 9.55 | 0.000712 | 0.00427 |
| Cadmium | 392 | 854 | 0.0031 | 25.4 | 0.002 | 4,000 |
| Calcium | 854 | 854 | 0.062 | 775 | -- | -- |
| Chromium | 783 | 854 | 0.00183 | 70.4 | 0.0026 | 0.0141 |
| Cobalt | 312 | 854 | 0.00596 | 6.95 | 0.00417 | 0.025 |
| Copper | 793 | 854 | 0.00726 | 149 | 0.0071 | 0.0326 |
| Iron | 853 | 854 | 0.0151 | 2,190 | 0.0333 | 0.0333 |
| Lead | 563 | 815 | 0.0192 | 588 | 0.0186 | 0.709 |
| Magnesium | 853 | 854 | 0.123 | 273 | 0.0253 | 0.0253 |
| Manganese | 468 | 854 | 0.0226 | 28.1 | 0.0247 | 0.0987 |
| Mercury | 572 | 838 | 0.000137 | 1.12 | 0.000136 | 0.000564 |
| Nickel | 510 | 854 | 0.00719 | 104 | 0.00319 | 0.685 |
| Potassium | 415 | 854 | 0.333 | 279 | 0.218 | 1.6 |
| Selenium | 13 | 815 | 0.0723 | 0.631 | 0.000207 | 0.904 |
| Silver | 260 | 854 | 0.00178 | 1.13 | 0.00161 | 0.0101 |
| Sodium | 852 | 854 | 0.115 | 249 | 0.0968 | 0.931 |
| Thallium | 9 | 854 | 0.0968 | 2.69 | 0.0572 | 0.57 |
| Vanadium | 366 | 854 | 0.00313 | 6.07 | 0.00282 | 0.0141 |
| Zinc | 853 | 854 | 0.0282 | 121 | 0.00585 | 0.00585 |
| Cyanide | 118 | 599 | 0.0014 | 7.6 | 0.00125 | 0.0125 |
| Nitrite, nitrate - nonspecific | 68 | 103 | 0.00205 | 9.95 | 0.00125 | 0.005 |
| 2-Fluorophenol | 1 | 1 | 0.07 | 0.07 | -- | -- |
| Benzoic acid | 12 | 808 | 0.043 | 0.52 | 0.02 | 5 |
| Benzyl alcohol | 35 | 808 | 0.003 | 0.13 | 0.00085 | 0.051 |
| Bis (2-chloroethyl) ether | 0 | 808 | -- | -- | 0.0095 | 0.58 |
| Bis (2-chloroethoxy) methane | 0 | 808 | -- | -- | 0.005 | 0.3 |
| Bis (2-chloroisopropyl) ether | 0 | 808 | -- | -- | 0.012 | 0.7 |
| Bromophenylphenyl ether, 4- | 0 | 808 | -- | -- | 0.0011 | 0.066 |
| Chloroaniline, 4- | 0 | 808 | -- | -- | 0.004 | 1 |
| Chloronaphthalene, 2- | 0 | 808 | -- | -- | 0.0065 | 0.38 |
| Chlorophenol, 2- | 0 | 808 | -- | -- | 0.0015 | 0.088 |

continued-

Table 2-1 - continued

| Chemical | Building Interior Wipe Samples | | | | | |
|------------------------------|--------------------------------|-------|--|---------|---|---------|
| | Frequency of Detection | | Range of Detected Values ($\mu\text{g}/\text{cm}^2$) | | Range of Detection Limits ($\mu\text{g}/\text{cm}^2$) | |
| | Hits | Total | Minimum | Maximum | Minimum | Maximum |
| Chlorophenylphenyl ether, 4- | 0 | 808 | -- | -- | 0.0046 | 0.27 |
| Dibenzofuran | 0 | 808 | -- | -- | 0.01 | 0.61 |
| Dichlorobenzene, 1,2- | 1 | 808 | 0.04 | 0.04 | 0.0011 | 0.067 |
| Dichlorobenzene, 1,3- | 2 | 808 | 0.025 | 0.083 | 0.0011 | 0.067 |
| Dichlorobenzene, 1,4- | 4 | 808 | 0.013 | 0.19 | 0.0009 | 0.051 |
| Dichlorobenzidine, 3,3'- | 0 | 808 | -- | -- | 0.043 | 2.6 |
| Dichlorophenol, 2,4- | 0 | 808 | -- | -- | 0.0018 | 0.1 |
| Dimethyl phthalate | 7 | 808 | 0.005 | 0.049 | 0.0017 | 0.1 |
| Dimethylphenol, 2,4- | 0 | 808 | -- | -- | 0.08 | 4.8 |
| Dinitrophenol, 2,4- | 0 | 808 | -- | -- | 0.13 | 7.5 |
| Hexachlorobenzene | 0 | 808 | -- | -- | 0.0022 | 0.13 |
| Hexachlorobutadiene | 0 | 808 | -- | -- | 0.026 | 1.6 |
| Hexachlorocyclopentadiene | 0 | 808 | -- | -- | 0.014 | 0.83 |
| Hexachloroethane | 0 | 808 | -- | -- | 0.048 | 2.9 |
| Isophorone | 0 | 808 | -- | -- | 0.011 | 0.62 |
| Methyl-4,6,dinitrophenol, 2- | 0 | 808 | -- | -- | 0.022 | 1.3 |
| Methyl-4-chlorophenol, 3- | 0 | 808 | -- | -- | 0.025 | 1.5 |
| Methylnaphthalene, 2- | 15 | 808 | 0.0027 | 0.12 | 0.00085 | 0.051 |
| Methylphenol, 2- | 0 | 808 | -- | -- | 0.0026 | 0.16 |
| Methylphenol, 4- | 14 | 808 | 0.016 | 0.075 | 0.00076 | 0.24 |
| N-Nitrosodi-N-propylamine | 0 | 808 | -- | -- | 0.03 | 1.8 |
| N-Nitrosodiphenylamine | 0 | 808 | -- | -- | 0.0075 | 0.46 |
| Naphthalene | 3 | 808 | 0.059 | 0.14 | 0.02 | 1.2 |
| Nitroaniline, 2- | 0 | 807 | -- | -- | 0.02 | 5 |
| Nitroaniline, 3- | 0 | 808 | -- | -- | 0.08 | 4.8 |
| Nitroaniline, 4- | 0 | 808 | -- | -- | 0.02 | 5 |
| Nitrophenol, 2- | 0 | 808 | -- | -- | 0.03 | 1.8 |
| Nitrophenol, 4- | 0 | 808 | -- | -- | 0.09 | 5.3 |
| Pentachlorophenol | 2 | 808 | 0.21 | 0.5 | 0.021 | 1.2 |
| Phenol | 13 | 808 | 0.006 | 0.39 | 0.0014 | 0.28 |
| Trichlorobenzene, 1,2,4- | 10 | 808 | 0.009 | 0.11 | 0.006 | 0.35 |
| Trichlorophenol, 2,4,5- | 0 | 808 | -- | -- | 0.013 | 0.78 |
| Trichlorophenol, 2,4,6- | 0 | 808 | -- | -- | 0.0002 | 0.061 |
| Acenaphthene | 4 | 808 | 0.004 | 0.08 | 0.0011 | 0.066 |
| Acenaphthylene | 10 | 808 | 0.003 | 0.012 | 0.0009 | 0.053 |
| Anthracene | 1 | 808 | 0.23 | 0.23 | 0.019 | 1.1 |
| Benzo (a) anthracene | 33 | 808 | 0.002 | 0.54 | 0.0011 | 0.066 |

continued-

Table 2-1 - continued

| Chemical | Building Interior Wipe Samples | | | | | |
|-------------------------------|--------------------------------|-------|--|----------|---|---------|
| | Frequency of Detection | | Range of Detected Values ($\mu\text{g}/\text{cm}^2$) | | Range of Detection Limits ($\mu\text{g}/\text{cm}^2$) | |
| | Hits | Total | Minimum | Maximum | Minimum | Maximum |
| Benzo (a) pyrene | 1 | 808 | 0.33 | 0.33 | 0.032 | 1.9 |
| Benzo (b) fluoranthene | 5 | 808 | 0.016 | 0.33 | 0.0085 | 0.5 |
| Benzo (g,h,i) perylene | 4 | 808 | 0.02 | 0.18 | 0.0048 | 0.29 |
| Benzo (k) fluoranthene | 8 | 808 | 0.008 | 0.026 | 0.0035 | 0.21 |
| Chrysene | 30 | 808 | 0.0019 | 0.96 | 0.00085 | 0.051 |
| Dibenz (a,h) anthracene | 1 | 808 | 0.065 | 0.065 | 0.0085 | 0.5 |
| Fluoranthene | 82 | 808 | 0.0017 | 0.38 | 0.00085 | 0.051 |
| Fluorene | 5 | 808 | 0.005 | 0.28 | 0.0018 | 0.1 |
| Indeno (1,2,3-cd) pyrene | 0 | 808 | -- | -- | 0.065 | 3.8 |
| Phenanthrene | 167 | 808 | 0.0013 | 0.96 | 0.00085 | 0.051 |
| Pyrene | 44 | 808 | 0.0038 | 0.5 | 0.0022 | 0.13 |
| Bis (2-ethylhexyl) phthalate | 503 | 808 | 0.013 | 5.3 | 0.015 | 0.77 |
| Butylbenzyl phthalate | 221 | 808 | 0.072 | 5.4 | 0.048 | 2.9 |
| Di-N-butyl phthalate | 141 | 808 | 0.016 | 11 | 0.035 | 2.1 |
| Di-N-octyl phthalate | 62 | 808 | 0.019 | 1.5 | 0.006 | 0.37 |
| Diethyl phthalate | 13 | 808 | 0.012 | 1.1 | 0.0065 | 0.38 |
| Aldrin | 24 | 228 | 0.000099 | 0.00587 | 0.000056 | 0.0014 |
| Alpha-Endosulfan | 37 | 228 | 0.000065 | 0.00315 | 0.00004 | 0.001 |
| Alpha-Hexachlorocyclohexane | 10 | 228 | 0.000122 | 0.000405 | 0.00014 | 0.0028 |
| Atrazine | 0 | 808 | -- | -- | 0.0018 | 0.1 |
| Beta-Endosulfan | 91 | 228 | 0.00004 | 0.00705 | 0.000035 | 0.0007 |
| Beta-Hexachlorocyclohexane | 0 | 228 | -- | -- | 0.000308 | 0.0077 |
| Chlordane | 0 | 228 | -- | -- | 0.00274 | 0.0684 |
| DDD | 59 | 228 | 0.00014 | 0.00461 | 0.000108 | 0.00054 |
| DDE | 70 | 228 | 0.000268 | 0.01 | 0.000108 | 0.0027 |
| DDT | 123 | 228 | 0.000183 | 0.1 | 0.000175 | 0.0007 |
| Delta-Hexachlorocyclohexane | 1 | 228 | 0.00143 | 0.00143 | 0.00034 | 0.0085 |
| Dieldrin | 75 | 228 | 0.000093 | 0.0322 | 0.00008 | 0.00032 |
| Diisopropylmethyl phosphonate | 1 | 228 | 0.304 | 0.304 | 0.00125 | 0.0025 |
| Dimethylmethyl phosphate | 0 | 228 | -- | -- | 0.0005 | 0.0015 |
| Endosulfan sulfate | 6 | 228 | 0.000055 | 0.00204 | 0.00002 | 0.00417 |
| Endrin | 53 | 228 | 0.00033 | 0.05 | 0.00015 | 0.00534 |
| Endrin aldehyde | 1 | 228 | 0.00008 | 0.00008 | 0.000033 | 0.00005 |
| Endrin ketone | 17 | 228 | 0.000047 | 0.00576 | 0.00002 | 0.0126 |
| Gamma-Hexachlorocyclohexane | 38 | 228 | 0.000045 | 0.01 | 0.00004 | 0.001 |
| Heptachlor | 17 | 228 | 0.000227 | 0.00235 | 0.000088 | 0.0022 |
| Heptachlor epoxide | 28 | 228 | 0.000106 | 0.00538 | 0.000052 | 0.0013 |

continued-

Table 2-1 - continued

| Chemical | Building Interior Wipe Samples | | | | | |
|-------------------------|--------------------------------|-------|--|---------|---|---------|
| | Frequency of Detection | | Range of Detected Values ($\mu\text{g}/\text{cm}^2$) | | Range of Detection Limits ($\mu\text{g}/\text{cm}^2$) | |
| | Hits | Total | Minimum | Maximum | Minimum | Maximum |
| Isodrin | 13 | 228 | 0.000189 | 0.01 | 0.00012 | 0.003 |
| Methoxychlor | 9 | 228 | 0.00226 | 0.0552 | 0.00144 | 0.0359 |
| PCB 1016 | 0 | 221 | -- | -- | 0.0022 | 0.1 |
| PCB 1221 | 0 | 221 | -- | -- | 0.0022 | 0.1 |
| PCB 1232 | 0 | 221 | -- | -- | 0.0022 | 0.1 |
| PCB 1242 | 0 | 221 | -- | -- | 0.0022 | 0.1 |
| PCB 1248 | 0 | 221 | -- | -- | 0.0022 | 0.1 |
| PCB 1254 | 22 | 221 | 0.00515 | 0.689 | 0.00105 | 0.2 |
| PCB 1260 | 30 | 221 | 0.00206 | 0.2 | 0.00192 | 0.0479 |
| Toxaphene | 0 | 228 | -- | -- | 0.00904 | 0.226 |
| Dinitrobenzene, 1,3- | 0 | 102 | -- | -- | 0.00202 | 0.0101 |
| Dinitrotoluene, 2,4- | 12 | 910 | 0.0175 | 2.89 | 0.01 | 2.2 |
| Dinitrotoluene, 2,6- | 0 | 910 | -- | -- | 0.008 | 2 |
| HMX | 4 | 102 | 0.0102 | 0.0424 | 0.008 | 0.04 |
| Nitrobenzene | 0 | 910 | -- | -- | 0.00456 | 2.9 |
| RDX | 46 | 102 | 0.00704 | 1.32 | 0.00512 | 128 |
| TETRYL | 0 | 102 | -- | -- | 0.00844 | 0.0422 |
| Trinitrobenzene, 1,3,5- | 0 | 102 | -- | -- | 0.00369 | 9,200 |
| Trinitrotoluene, 2,4,6- | 1 | 102 | 0.055 | 0.055 | 0.008 | 0.04 |

**TABLE 2-2 SUMMARY OF CHEMICALS DETECTED IN
BACKGROUND WIPE SAMPLES**

| Chemical | Range of Detected Values ($\mu\text{g}/\text{cm}^2$) | |
|--|---|----------|
| | Minimum | Maximum |
| Aluminum | 0.225 | 19.6 |
| Barium | 0.0542 | 1.89 |
| Calcium | 1.94 | 180 |
| Chromium | 0.0197 | 0.0928 |
| Copper | 0.0325 | 0.227 |
| Iron | 0.191 | 40.9 |
| Lead | 0.0789 | 0.298 |
| Magnesium | 0.435 | 35.2 |
| Manganese | 0.269 | 0.852 |
| Mercury | 0.00064 | 0.001 |
| Nickel | 0.0376 | 0.0557 |
| Potassium | 1.45 | 6.08 |
| Sodium | 1.19 | 15.5 |
| Vanadium | 0.023 | 0.0682 |
| Zinc | 0.0687 | 0.717 |
| Nitrite, nitrate - nonspecific | 0.0204 | 0.214 |
| 2,2-Bis (p-chlorophenyl)-1,1,1- trichloroethane | 0.001 | 0.001 |
| Bis (2-ethylhexyl) phthalate | 0.092 | 0.99 |
| Butylbenzyl phthalate | 0.12 | 0.71 |
| Beta-Endosulfan | 0.000189 | 0.000189 |
| Dieldrin | 0.000459 | 0.001 |
| Endosulfan sulfate | 0.000435 | 0.048 |
| Endrin ketone | 0.000282 | 0.00139 |

TABLE 2-3 CHEMICALS EVALUATED AS ESSENTIAL NUTRIENTS

| <u>Chemical</u> | <u>Wipe Concentration, mg/m^{2(a)}</u> | <u>Daily Intake, mg/day^(b)</u> | <u>RDA, mg/day^(c)</u> | <u>Daily Intake > RDA?</u> |
|-----------------|--|---|--------------------------------------|---------------------------------------|
| Calcium | 7,750 | 7.75 | 1,200 | No |
| Copper | 1,490 | 1.49 | 3 | No |
| Iron | 21,900 | 21.9 | 30 | No |
| Magnesium | 2,730 | 2.73 | 400 | No |
| Manganese | 281 | 0.281 | 5 | No |
| Potassium | 2,790 | 2.79 | 2,000 | No |
| Sodium | 2,490 | 2.49 | 500 | No |
| Zinc | 1,121 | 1.12 | 19 | No |

(a) Maximum concentration in any wipe sample (from Table 2-1).

(b) Calculated by multiplying wipe concentration by an assumed daily ingestion rate of 1E-03 m²/day (see Table 3-9).

(c) Recommended Dietary Allowance (NAS, 1989).

TABLE 2-4 CHEMICALS ELIMINATED FROM RISK QUANTIFICATION

| <u>Chemical</u> | <u>Rationale for Elimination</u> |
|------------------------------|-----------------------------------|
| Aluminum | No toxicity information available |
| Calcium | Essential nutrient |
| Cobalt | No toxicity information available |
| Copper | Essential nutrient |
| Iron | Essential nutrient |
| Magnesium | Essential nutrient |
| Manganese | Essential nutrient |
| Potassium | Essential nutrient |
| Selenium | Infrequent detection |
| Sodium | Essential nutrient |
| Thallium | Infrequent detection |
| Zinc | Essential nutrient |
| 2-Fluorophenol | Infrequent detection |
| Benzoic acid | Infrequent detection |
| Benzyl alcohol | Infrequent detection |
| 1,2-Dichlorobenzene | Infrequent detection |
| 1,3-Dichlorobenzene | Infrequent detection |
| 1,4-Dichlorobenzene | Infrequent detection |
| Dimethyl phthalate | Infrequent detection |
| 4-Methylphenol | Infrequent detection |
| Pentachlorophenol | Infrequent detection |
| Phenol | Infrequent detection |
| 1,2,4-Trichlorobenzene | No toxicity information available |
| Diethylphthalate | Infrequent detection |
| alpha-Hexachlorocyclohexane | Infrequent detection |
| delta-Hexachlorocyclohexane | Infrequent detection |
| Diisopropylmethylphosphonate | Infrequent detection |
| Endosulfan sulfate | Infrequent detection |
| Endrin aldehyde | Infrequent detection |
| Endrin ketone | No toxicity information available |
| Isodrin | No toxicity information available |
| HMX | Infrequent detection |
| TNT | Infrequent detection |

**TABLE 2-5 CHEMICALS SELECTED AS CHEMICALS OF POTENTIAL CONCERN
FOR THE INDOOR RISK ASSESSMENT**

| | |
|----------------------------|------------------------|
| Acenaphthene | Di-n-butyl phthalate |
| Acenaphthylene | Di-n-octylphthalate |
| Aldrin | Dibenz(a,h)anthracene |
| Alpha-Endosulfan | Dieldrin |
| Anthracene | Dinitrotoluene, 2,4- |
| Antimony | Endrin |
| Arsenic | Fluoranthene |
| Barium | Fluorene |
| Benzo(a)anthracene | Gamma-BHC |
| Benzo(a)pyrene | Heptachlor |
| Benzo(b)fluoranthene | Heptachlor epoxide |
| Benzo(g,h,i)perylene | Lead |
| Benzo(k)fluoranthene | Mercury |
| Beryllium | Methoxychlor |
| Beta-Endosulfan | Naphthalene |
| Bis(2-ethylhexyl)phthalate | Naphthalene, 2-methyl- |
| Butylbenzyl phthalate | Nickel |
| Cadmium | Nitrite, nitrate |
| Chromium | PCB 1260, 1254 |
| Chrysene | Phenanthrene |
| Cyanide | Pyrene |
| DDD | RDX |
| DDE | Silver |
| DDT | Vanadium |

TABLE 3-1 SUMMARY OF BUILDING USES AND SAMPLING ACTIVITIES

| <u>Building/ Structure</u> | <u>Present/Historical Use</u> | <u>Sampling Summary</u> |
|--------------------------------|---|-----------------------------|
| 36 | Now contains offices, conference rooms, cafeteria, library, auditorium. Once used in manufacturing shells but has undergone considerable renovation. | 8 rooms |
| 37* | Contains automotive repair, paint, carpentry shops, offices, metal heat treating. In the past was a machine shop, foundry, open hearth furnace. | 20 rooms |
| 39* | Former piano and mattress factory. Now used for laboratories and offices. Recent operations include depleted uranium (DU) metal polishing. | 86 rooms |
| 43 | Used previously as a blacksmith shop for metal forging, DU extrusion. Contained melt furnace, mills, presses and ovens. | 8 room |
| 60 | Central powerhouse and boiler room. | 3 rooms |
| 97 | Originally a railroad locomotive shop, later housed operations associated with the nuclear reactor (including laboratories). Now contains laboratories and linear accelerators. | 9 rooms |
| 111 | Installation Commander Housing. | 4 rooms |
| 117/118 | Former animal housing, now contains military/military dependent housing. | 1/3 rooms |
| 131 | Administrative Offices. | 5 rooms |
| 243 | Metal building for storage of various chemicals prior to use. | 1 room |
| 244/245 | Propellant/explosive storage bunkers. | Not Applicable |
| 292 | Originally a metal stock storehouse and used for plating operations. Now contains offices and laboratories. | 32 rooms |
| 311* | Historically contained a number of manufacturing operations associated with armament research and manufacturing. Currently contains research laboratories, storage and offices. | 43 rooms |
| 312* | Past operations included assembly of gun carriages, machining, plating. Now contains offices and laboratories. | 36 rooms |
| 313* | Shop area now and used for ballistics ranges, laboratories, administrative offices. | 39 rooms |

* Building selected for use in exposure point concentration calculation. See Subsection 3.3.1.

TABLE 3-2 EXPOSURE POINT CONCENTRATIONS - BUILDING 37

Exposure Point: Zone 3 - Building 37

Medium: Wipe

Units: mg/m²

U Multiplier: 0

| Chemical | EPC Hits | EPC Total | Max Value | Max Hit | Arith Mean | EPC (mg/m ²) | EPC - AIR | |
|--------------------------------|----------|-----------|-----------|---------|------------|--------------------------|--------------------------------|--------------------------------|
| | | | | | | | R = 1E-04 (mg/m ³) | R = 1E-05 (mg/m ³) |
| Antimony | 1 | 57 | 1.6E+00 | 1.6E+00 | 2.8E-02 | 2.8E-02 | 2.8E-06 | 2.8E-07 |
| Arsenic | 22 | 57 | 2.6E+00 | 2.6E+00 | 2.2E-01 | 2.2E-01 | 2.2E-05 | 2.2E-06 |
| Barium | 52 | 57 | 2.0E+02 | 2.0E+02 | 1.2E+01 | 1.2E+01 | 1.2E-03 | 1.2E-04 |
| Beryllium | 3 | 57 | 7.6E-02 | 7.6E-02 | 3.1E-03 | 3.1E-03 | 3.1E-07 | 3.1E-08 |
| Cadmium | 36 | 57 | 4.0E+00 | 4.0E+00 | 4.3E-01 | 4.3E-01 | 4.3E-05 | 4.3E-06 |
| Chromium | 56 | 57 | 4.5E+02 | 4.5E+02 | 1.5E+01 | 1.5E+01 | 1.5E-03 | 1.5E-04 |
| Lead | 52 | 57 | 2.7E+02 | 2.7E+02 | 2.2E+01 | 2.2E+01 | 2.2E-03 | 2.2E-04 |
| Mercury | 55 | 57 | 3.8E-01 | 3.8E-01 | 5.0E-02 | 5.0E-02 | 5.0E-06 | 5.0E-07 |
| Nickel | 46 | 57 | 2.4E+02 | 2.4E+02 | 8.3E+00 | 8.3E+00 | 8.3E-04 | 8.3E-05 |
| Silver | 31 | 57 | 2.8E+00 | 2.8E+00 | 2.1E-01 | 2.1E-01 | 2.1E-05 | 2.1E-06 |
| Vanadium | 45 | 57 | 1.0E+01 | 1.0E+01 | 7.7E-01 | 7.7E-01 | 7.7E-05 | 7.7E-06 |
| Cyanide | 16 | 57 | 1.1E+00 | 1.1E+00 | 7.0E-02 | 7.0E-02 | 7.0E-06 | 7.0E-07 |
| Nitrite, nitrate - nonspecific | 0 | 0 | — | — | — | — | — | — |
| Acenaphthene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Acenaphthylene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Anthracene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (a) anthracene | 2 | 57 | 2.3E-01 | 2.3E-01 | 5.4E-03 | 5.4E-03 | 5.4E-07 | 5.4E-08 |
| Benzo (a) pyrene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (b) fluoranthene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (g,h,i) perylene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (k) fluoranthene | 1 | 57 | 2.6E-01 | 2.6E-01 | 4.6E-03 | 4.6E-03 | 4.6E-07 | 4.6E-08 |
| Chrysene | 2 | 57 | 2.8E-01 | 2.8E-01 | 7.2E-03 | 7.2E-03 | 7.2E-07 | 7.2E-08 |
| Dibenz (a,h) anthracene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Fluoranthene | 11 | 57 | 5.7E-01 | 5.7E-01 | 5.2E-02 | 5.2E-02 | 5.2E-06 | 5.2E-07 |
| Fluorene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Methylnaphthalene, 2- | 2 | 57 | 1.2E+00 | 1.2E+00 | 2.7E-02 | 2.7E-02 | 2.7E-06 | 2.7E-07 |
| Naphthalene | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Phenanthrene | 17 | 57 | 5.0E+00 | 5.0E+00 | 1.7E-01 | 1.7E-01 | 1.7E-05 | 1.7E-06 |
| Pyrene | 6 | 57 | 4.1E-01 | 4.1E-01 | 3.2E-02 | 3.2E-02 | 3.2E-06 | 3.2E-07 |
| Bis (2-ethylhexyl) phthalate | 82 | 114 | 9.9E+00 | 9.9E+00 | 1.9E+00 | 1.9E+00 | 1.9E-04 | 1.9E-05 |
| Butylbenzyl phthalate | 6 | 57 | 2.7E+00 | 2.7E+00 | 1.9E-01 | 1.9E-01 | 1.9E-05 | 1.9E-06 |
| Di-N-butyl phthalate | 3 | 57 | 5.0E+00 | 5.0E+00 | 1.4E-01 | 1.4E-01 | 1.4E-05 | 1.4E-06 |
| Di-N-octyl phthalate | 2 | 57 | 2.7E+00 | 2.7E+00 | 9.1E-02 | 9.1E-02 | 9.1E-06 | 9.1E-07 |
| Aldrin | 8 | 57 | 5.9E-02 | 5.9E-02 | 3.6E-03 | 3.6E-03 | 3.6E-07 | 3.6E-08 |
| Alpha-Endosulfan | 14 | 57 | 3.2E-02 | 3.2E-02 | 1.8E-03 | 1.8E-03 | 1.8E-07 | 1.8E-08 |
| Beta-Endosulfan | 21 | 57 | 3.0E-02 | 3.0E-02 | 1.7E-03 | 1.7E-03 | 1.7E-07 | 1.7E-08 |
| DDD | 16 | 57 | 4.6E-02 | 4.6E-02 | 4.7E-03 | 4.7E-03 | 4.7E-07 | 4.7E-08 |
| DDE | 23 | 57 | 6.8E-02 | 6.8E-02 | 6.0E-03 | 6.0E-03 | 6.0E-07 | 6.0E-08 |
| DDT | 28 | 57 | 1.1E-01 | 1.1E-01 | 1.7E-02 | 1.7E-02 | 1.7E-06 | 1.7E-07 |
| Dieldrin | 26 | 57 | 6.7E-02 | 6.7E-02 | 4.6E-03 | 4.6E-03 | 4.6E-07 | 4.6E-08 |
| Endrin | 6 | 57 | 1.5E-02 | 1.5E-02 | 1.1E-03 | 1.1E-03 | 1.1E-07 | 1.1E-08 |
| Gamma-Hexachlorocyclohexane | 11 | 57 | 2.8E-03 | 2.8E-03 | 2.9E-04 | 2.9E-04 | 2.9E-08 | 2.9E-09 |
| Heptachlor | 2 | 57 | 5.3E-03 | 5.3E-03 | 1.3E-04 | 1.3E-04 | 1.3E-08 | 1.3E-09 |
| Heptachlor epoxide | 7 | 57 | 3.6E-03 | 3.6E-03 | 3.4E-04 | 3.4E-04 | 3.4E-08 | 3.4E-09 |
| Methoxychlor | 2 | 57 | 2.0E-01 | 2.0E-01 | 4.0E-03 | 4.0E-03 | 4.0E-07 | 4.0E-08 |
| PCB 1254 | 4 | 57 | 1.5E-01 | 1.5E-01 | 6.5E-03 | 6.5E-03 | 6.5E-07 | 6.5E-08 |
| PCB 1260 | 7 | 57 | 4.9E-01 | 4.9E-01 | 2.9E-02 | 2.9E-02 | 2.9E-06 | 2.9E-07 |
| Dinitrotoluene, 2,4- | 0 | 57 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| RDX | 0 | 0 | — | — | — | — | — | — |

TABLE 3-3 EXPOSURE POINT CONCENTRATIONS - BUILDING 39

Exposure Point: Zone 2 - Building 39

Medium: Wipe

Units: mg/m²

U Multiplier: 0

| Chemical | EPC Hits | EPC Total | Max Value | Max Hit | Arith Mean | EPC (mg/m ²) | EPC - Air | |
|--------------------------------|----------|-----------|-----------|---------|------------|--------------------------|--------------------------------|--------------------------------|
| | | | | | | | R = 1E-04 (mg/m ³) | R = 1E-05 (mg/m ³) |
| Antimony | 9 | 269 | 3.6E+01 | 3.6E+01 | 2.6E-01 | 2.6E-01 | 2.6E-05 | 2.6E-06 |
| Arsenic | 9 | 259 | 7.1E+01 | 7.1E+01 | 3.0E-01 | 3.0E-01 | 3.0E-05 | 3.0E-06 |
| Barium | 213 | 269 | 2.0E+02 | 2.0E+02 | 5.0E+00 | 5.0E+00 | 5.0E-04 | 5.0E-05 |
| Beryllium | 6 | 269 | 8.5E-02 | 8.5E-02 | 8.8E-04 | 8.8E-04 | 8.8E-08 | 8.8E-09 |
| Cadmium | 100 | 269 | 1.3E+02 | 1.3E+02 | 1.3E+00 | 1.3E+00 | 1.3E-04 | 1.3E-05 |
| Chromium | 246 | 269 | 7.0E+02 | 7.0E+02 | 7.5E+00 | 7.5E+00 | 7.5E-04 | 7.5E-05 |
| Lead | 188 | 269 | 4.2E+02 | 4.2E+02 | 1.1E+01 | 1.1E+01 | 1.1E-03 | 1.1E-04 |
| Mercury | 194 | 259 | 1.1E+01 | 1.1E+01 | 1.3E-01 | 1.3E-01 | 1.3E-05 | 1.3E-06 |
| Nickel | 152 | 269 | 1.0E+03 | 1.0E+03 | 7.0E+00 | 7.0E+00 | 7.0E-04 | 7.0E-05 |
| Silver | 72 | 269 | 1.1E+01 | 1.1E+01 | 2.0E-01 | 2.0E-01 | 2.0E-05 | 2.0E-06 |
| Vanadium | 99 | 269 | 6.1E+01 | 6.1E+01 | 3.8E-01 | 3.8E-01 | 3.8E-05 | 3.8E-06 |
| Cyanide | 45 | 243 | 2.1E+01 | 2.1E+01 | 2.1E-01 | 2.1E-01 | 2.1E-05 | 2.1E-06 |
| Nitrite, nitrate - nonspecific | 2 | 3 | 3.4E+00 | 3.4E+00 | 1.5E+00 | 1.5E+00 | 1.5E-04 | 1.5E-05 |
| Acenaphthene | 1 | 278 | 5.5E-02 | 5.5E-02 | 2.0E-04 | 2.0E-04 | 2.0E-08 | 2.0E-09 |
| Acenaphthylene | 7 | 278 | 1.2E-01 | 1.2E-01 | 1.8E-03 | 1.8E-03 | 1.8E-07 | 1.8E-08 |
| Anthracene | 0 | 278 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (a) anthracene | 17 | 278 | 4.0E+00 | 4.0E+00 | 2.4E-02 | 2.4E-02 | 2.4E-06 | 2.4E-07 |
| Benzo (a) pyrene | 0 | 278 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (b) fluoranthene | 0 | 278 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (g,h,i) perylene | 0 | 278 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (k) fluoranthene | 1 | 278 | 2.1E-01 | 2.1E-01 | 7.6E-04 | 7.6E-04 | 7.6E-08 | 7.6E-09 |
| Chrysene | 15 | 278 | 6.0E-01 | 6.0E-01 | 9.9E-03 | 9.9E-03 | 9.9E-07 | 9.9E-08 |
| Dibenz (a,h) anthracene | 0 | 278 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Fluoranthene | 24 | 278 | 7.6E-01 | 7.6E-01 | 1.6E-02 | 1.6E-02 | 1.6E-06 | 1.6E-07 |
| Fluorene | 2 | 278 | 2.1E-01 | 2.1E-01 | 1.1E-03 | 1.1E-03 | 1.1E-07 | 1.1E-08 |
| Methylnaphthalene, 2- | 6 | 278 | 1.9E-01 | 1.9E-01 | 1.8E-03 | 1.8E-03 | 1.8E-07 | 1.8E-08 |
| Naphthalene | 2 | 278 | 6.2E-01 | 6.2E-01 | 4.4E-03 | 4.4E-03 | 4.4E-07 | 4.4E-08 |
| Phenanthrene | 61 | 278 | 1.5E+00 | 1.5E+00 | 3.0E-02 | 3.0E-02 | 3.0E-06 | 3.0E-07 |
| Pyrene | 17 | 278 | 4.1E+00 | 4.1E+00 | 2.8E-02 | 2.8E-02 | 2.8E-06 | 2.8E-07 |
| Bis (2-ethylhexyl) phthalate | 314 | 556 | 4.2E+01 | 4.2E+01 | 2.1E+00 | 2.1E+00 | 2.1E-04 | 2.1E-05 |
| Butylbenzyl phthalate | 69 | 278 | 5.4E+01 | 5.4E+01 | 1.7E+00 | 1.7E+00 | 1.7E-04 | 1.7E-05 |
| Di-N-butyl phthalate | 68 | 278 | 6.2E+01 | 6.2E+01 | 1.3E+00 | 1.3E+00 | 1.3E-04 | 1.3E-05 |
| Di-N-octyl phthalate | 9 | 278 | 1.5E+01 | 1.5E+01 | 1.1E-01 | 1.1E-01 | 1.1E-05 | 1.1E-06 |
| Aldrin | 3 | 23 | 2.3E-02 | 2.3E-02 | 1.9E-03 | 1.9E-03 | 1.9E-07 | 1.9E-08 |
| Alpha-Endosulfan | 1 | 23 | 2.5E-03 | 2.5E-03 | 1.1E-04 | 1.1E-04 | 1.1E-08 | 1.1E-09 |
| Beta-Endosulfan | 3 | 23 | 7.0E-04 | 7.0E-04 | 6.5E-05 | 6.5E-05 | 6.5E-09 | 6.5E-10 |
| DDD | 4 | 23 | 3.1E-03 | 3.1E-03 | 3.7E-04 | 3.7E-04 | 3.7E-08 | 3.7E-09 |
| DDE | 3 | 23 | 7.2E-03 | 7.2E-03 | 6.1E-04 | 6.1E-04 | 6.1E-08 | 6.1E-09 |
| DDT | 9 | 23 | 1.5E-02 | 1.5E-02 | 2.9E-03 | 2.9E-03 | 2.9E-07 | 2.9E-08 |
| Dieldrin | 0 | 23 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Endrin | 4 | 23 | 7.8E-03 | 7.8E-03 | 9.1E-04 | 9.1E-04 | 9.1E-08 | 9.1E-09 |
| Gamma-Hexachlorocyclohexane | 4 | 23 | 1.2E-03 | 1.2E-03 | 1.5E-04 | 1.5E-04 | 1.5E-08 | 1.5E-09 |
| Heptachlor | 0 | 23 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Heptachlor epoxide | 1 | 23 | 2.2E-03 | 2.2E-03 | 9.6E-05 | 9.6E-05 | 9.6E-09 | 9.6E-10 |
| Methoxychlor | 0 | 23 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| PCB 1254 | 4 | 10 | 1.7E+00 | 1.7E+00 | 4.7E-01 | 4.7E-01 | 4.7E-05 | 4.7E-06 |
| PCB 1260 | 1 | 10 | 5.8E-02 | 5.8E-02 | 5.8E-03 | 5.8E-03 | 5.8E-07 | 5.8E-08 |
| Dinitrotoluene, 2,4- | 0 | 281 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| RDX | 1 | 3 | 1.3E-01 | 1.3E-01 | 4.5E-02 | 4.5E-02 | 4.5E-06 | 4.5E-07 |

TABLE 3-4 EXPOSURE POINT CONCENTRATIONS - BUILDING 311

Exposure Point: Zone 2 - Building 311

Medium: Wipe

Units: mg/m²

U Multiplier: 0

| Chemical | EPC Hits | EPC Total | Max Value | Max Hit | Arith Mean | EPC (mg/m ²) | EPC - Air | |
|--------------------------------|----------|-----------|-----------|---------|------------|--------------------------|--------------------------------|--------------------------------|
| | | | | | | | R = 1E-04 (mg/m ³) | R = 1E-05 (mg/m ³) |
| Antimony | 12 | 88 | 4.9E+00 | 4.9E+00 | 2.4E-01 | 2.4E-01 | 2.4E-05 | 2.4E-06 |
| Arsenic | 19 | 88 | 4.5E-01 | 4.5E-01 | 4.1E-02 | 4.1E-02 | 4.1E-06 | 4.1E-07 |
| Barium | 84 | 88 | 6.3E+01 | 6.3E+01 | 5.6E+00 | 5.6E+00 | 5.6E-04 | 5.6E-05 |
| Beryllium | 10 | 88 | 1.0E-01 | 1.0E-01 | 4.5E-03 | 4.5E-03 | 4.5E-07 | 4.5E-08 |
| Cadmium | 66 | 88 | 1.1E+01 | 1.1E+01 | 7.7E-01 | 7.7E-01 | 7.7E-05 | 7.7E-06 |
| Chromium | 83 | 88 | 6.7E+01 | 6.7E+01 | 4.1E+00 | 4.1E+00 | 4.1E-04 | 4.1E-05 |
| Lead | 76 | 88 | 1.6E+02 | 1.6E+02 | 1.7E+01 | 1.7E+01 | 1.7E-03 | 1.7E-04 |
| Mercury | 65 | 88 | 2.1E-01 | 2.1E-01 | 2.0E-02 | 2.0E-02 | 2.0E-06 | 2.0E-07 |
| Nickel | 74 | 88 | 2.1E+01 | 2.1E+01 | 3.4E+00 | 3.4E+00 | 3.4E-04 | 3.4E-05 |
| Silver | 31 | 88 | 6.1E-01 | 6.1E-01 | 4.0E-02 | 4.0E-02 | 4.0E-06 | 4.0E-07 |
| Vanadium | 63 | 88 | 2.6E+01 | 2.6E+01 | 1.1E+00 | 1.1E+00 | 1.1E-04 | 1.1E-05 |
| Cyanide | 24 | 90 | 3.1E-01 | 3.1E-01 | 3.0E-02 | 3.0E-02 | 3.0E-06 | 3.0E-07 |
| Nitrite, nitrate - nonspecific | 7 | 8 | 5.8E+01 | 5.8E+01 | 1.7E+01 | 1.7E+01 | 1.7E-03 | 1.7E-04 |
| Acenaphthene | 2 | 87 | 1.7E-01 | 1.7E-01 | 2.4E-03 | 2.4E-03 | 2.4E-07 | 2.4E-08 |
| Acenaphthylene | 2 | 87 | 1.1E-01 | 1.1E-01 | 2.0E-03 | 2.0E-03 | 2.0E-07 | 2.0E-08 |
| Anthracene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (a) anthracene | 4 | 87 | 7.2E-01 | 7.2E-01 | 2.7E-02 | 2.7E-02 | 2.7E-06 | 2.7E-07 |
| Benzo (a) pyrene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (b) fluoranthene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (g,h,i) perylene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (k) fluoranthene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Chrysene | 3 | 87 | 7.4E-01 | 7.4E-01 | 1.3E-02 | 1.3E-02 | 1.3E-06 | 1.3E-07 |
| Dibenz (a,h) anthracene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Fluoranthene | 25 | 87 | 3.8E+00 | 3.8E+00 | 2.0E-01 | 2.0E-01 | 2.0E-05 | 2.0E-06 |
| Fluorene | 2 | 87 | 2.9E-01 | 2.9E-01 | 3.9E-03 | 3.9E-03 | 3.9E-07 | 3.9E-08 |
| Methylnaphthalene, 2- | 1 | 87 | 3.0E-02 | 3.0E-02 | 3.5E-04 | 3.5E-04 | 3.5E-08 | 3.5E-09 |
| Naphthalene | 0 | 87 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Phenanthrene | 44 | 87 | 2.7E+00 | 2.7E+00 | 1.5E-01 | 1.5E-01 | 1.5E-05 | 1.5E-06 |
| Pyrene | 7 | 87 | 2.0E+00 | 2.0E+00 | 5.9E-02 | 5.9E-02 | 5.9E-06 | 5.9E-07 |
| Bis (2-ethylhexyl) phthalate | 104 | 174 | 5.3E+01 | 5.3E+01 | 2.4E+00 | 2.4E+00 | 2.4E-04 | 2.4E-05 |
| Butylbenzyl phthalate | 22 | 87 | 2.5E+01 | 2.5E+01 | 1.1E+00 | 1.1E+00 | 1.1E-04 | 1.1E-05 |
| Di-N-butyl phthalate | 5 | 87 | 2.0E+00 | 2.0E+00 | 1.0E-01 | 1.0E-01 | 1.0E-05 | 1.0E-06 |
| Di-N-octyl phthalate | 14 | 87 | 5.0E+00 | 5.0E+00 | 3.4E-01 | 3.4E-01 | 3.4E-05 | 3.4E-06 |
| Aldrin | 4 | 49 | 8.1E-03 | 8.1E-03 | 3.2E-04 | 3.2E-04 | 3.2E-08 | 3.2E-09 |
| Alpha-Endosulfan | 12 | 49 | 1.6E-02 | 1.6E-02 | 1.5E-03 | 1.5E-03 | 1.5E-07 | 1.5E-08 |
| Beta-Endosulfan | 20 | 49 | 4.7E-02 | 4.7E-02 | 3.8E-03 | 3.8E-03 | 3.8E-07 | 3.8E-08 |
| DDD | 25 | 49 | 3.2E-02 | 3.2E-02 | 5.2E-03 | 5.2E-03 | 5.2E-07 | 5.2E-08 |
| DDE | 27 | 49 | 6.7E-02 | 6.7E-02 | 6.7E-03 | 6.7E-03 | 6.7E-07 | 6.7E-08 |
| DDT | 33 | 49 | 1.0E-01 | 1.0E-01 | 2.6E-02 | 2.6E-02 | 2.6E-06 | 2.6E-07 |
| Dieldrin | 15 | 49 | 8.8E-02 | 8.8E-02 | 5.7E-03 | 5.7E-03 | 5.7E-07 | 5.7E-08 |
| Endrin | 22 | 49 | 5.0E-02 | 5.0E-02 | 1.2E-02 | 1.2E-02 | 1.2E-06 | 1.2E-07 |
| Gamma-Hexachlorocyclohexane | 16 | 49 | 1.0E-01 | 1.0E-01 | 7.6E-03 | 7.6E-03 | 7.6E-07 | 7.6E-08 |
| Heptachlor | 15 | 49 | 2.4E-02 | 2.4E-02 | 2.3E-03 | 2.3E-03 | 2.3E-07 | 2.3E-08 |
| Heptachlor epoxide | 11 | 49 | 5.4E-02 | 5.4E-02 | 1.8E-03 | 1.8E-03 | 1.8E-07 | 1.8E-08 |
| Methoxychlor | 3 | 49 | 5.5E-01 | 5.5E-01 | 1.4E-02 | 1.4E-02 | 1.4E-06 | 1.4E-07 |
| PCB 1254 | 1 | 51 | 6.1E-02 | 6.1E-02 | 1.2E-03 | 1.2E-03 | 1.2E-07 | 1.2E-08 |
| PCB 1260 | 1 | 51 | 1.3E-01 | 1.3E-01 | 2.6E-03 | 2.6E-03 | 2.6E-07 | 2.6E-08 |
| Dinitrotoluene, 2,4- | 0 | 95 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| RDX | 4 | 8 | 1.3E+01 | 1.3E+01 | 1.7E+00 | 1.7E+00 | 1.7E-04 | 1.7E-05 |

TABLE 3-5 EXPOSURE POINT CONCENTRATIONS - BUILDING 312

Exposure Point: Zone 2 - Building 312

Medium: Wipe

Units: mg/m²

U Multiplier: 0

| Chemical | EPC Hits | EPC Total | Max Value | Max Hit | Arith Mean | EPC (mg/m ²) | EPC - Air | |
|--------------------------------|----------|-----------|-----------|---------|------------|--------------------------|--------------------------------|--------------------------------|
| | | | | | | | R = 1E-04 (mg/m ³) | R = 1E-05 (mg/m ³) |
| Antimony | 6 | 121 | 1.2E+01 | 1.2E+01 | 2.1E-01 | 2.1E-01 | 2.1E-05 | 2.1E-06 |
| Arsenic | 8 | 115 | 8.4E+00 | 8.4E+00 | 8.3E-02 | 8.3E-02 | 8.3E-06 | 8.3E-07 |
| Barium | 98 | 121 | 1.1E+02 | 1.1E+02 | 3.6E+00 | 3.6E+00 | 3.6E-04 | 3.6E-05 |
| Beryllium | 50 | 121 | 9.6E+01 | 9.6E+01 | 1.3E+00 | 1.3E+00 | 1.3E-04 | 1.3E-05 |
| Cadmium | 78 | 121 | 2.5E+02 | 2.5E+02 | 9.8E+00 | 9.8E+00 | 9.8E-04 | 9.8E-05 |
| Chromium | 116 | 121 | 1.1E+02 | 1.1E+02 | 3.7E+00 | 3.7E+00 | 3.7E-04 | 3.7E-05 |
| Lead | 79 | 102 | 9.9E+02 | 9.9E+02 | 2.5E+01 | 2.5E+01 | 2.5E-03 | 2.5E-04 |
| Mercury | 68 | 114 | 6.7E-01 | 6.7E-01 | 1.9E-02 | 1.9E-02 | 1.9E-06 | 1.9E-07 |
| Nickel | 89 | 121 | 1.7E+02 | 1.7E+02 | 3.6E+00 | 3.6E+00 | 3.6E-04 | 3.6E-05 |
| Silver | 49 | 121 | 5.3E+00 | 5.3E+00 | 2.0E-01 | 2.0E-01 | 2.0E-05 | 2.0E-06 |
| Vanadium | 51 | 121 | 4.1E+00 | 4.1E+00 | 3.0E-01 | 3.0E-01 | 3.0E-05 | 3.0E-06 |
| Cyanide | 19 | 75 | 7.6E+01 | 7.6E+01 | 1.5E+00 | 1.5E+00 | 1.5E-04 | 1.5E-05 |
| Nitrite, nitrate - nonspecific | 11 | 19 | 1.0E+02 | 1.0E+02 | 6.2E+00 | 6.2E+00 | 6.2E-04 | 6.2E-05 |
| Acenaphthene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Acenaphthylene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Anthracene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Benzo (a) anthracene | 2 | 94 | 1.0E-01 | 1.0E-01 | 1.5E-03 | 1.5E-03 | 1.5E-07 | 1.5E-08 |
| Benzo (a) pyrene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Benzo (b) fluoranthene | 1 | 94 | 1.6E-01 | 1.6E-01 | 1.7E-03 | 1.7E-03 | 1.7E-07 | 1.7E-08 |
| Benzo (g,h,i) perylene | 1 | 94 | 2.0E-01 | 2.0E-01 | 2.1E-03 | 2.1E-03 | 2.1E-07 | 2.1E-08 |
| Benzo (k) fluoranthene | 3 | 94 | 2.5E-01 | 2.5E-01 | 5.1E-03 | 5.1E-03 | 5.1E-07 | 5.1E-08 |
| Chrysene | 1 | 94 | 8.0E-02 | 8.0E-02 | 8.5E-04 | 8.5E-04 | 8.5E-08 | 8.5E-09 |
| Dibenz (a,h) anthracene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Fluoranthene | 4 | 94 | 3.1E-01 | 3.1E-01 | 7.5E-03 | 7.5E-03 | 7.5E-07 | 7.5E-08 |
| Fluorene | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Methylnaphthalene, 2- | 0 | 94 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Naphthalene | 1 | 94 | 1.4E+00 | 1.4E+00 | 1.5E-02 | 1.5E-02 | 1.5E-06 | 1.5E-07 |
| Phenanthrene | 10 | 94 | 7.0E-01 | 7.0E-01 | 1.5E-02 | 1.5E-02 | 1.5E-06 | 1.5E-07 |
| Pyrene | 4 | 94 | 2.1E-01 | 2.1E-01 | 5.6E-03 | 5.6E-03 | 5.6E-07 | 5.6E-08 |
| Bis (2-ethylhexyl) phthalate | 134 | 188 | 9.9E+00 | 9.9E+00 | 2.8E+00 | 2.8E+00 | 2.8E-04 | 2.8E-05 |
| Butylbenzyl phthalate | 38 | 94 | 9.9E+00 | 9.9E+00 | 2.1E+00 | 2.1E+00 | 2.1E-04 | 2.1E-05 |
| Di-N-butyl phthalate | 22 | 94 | 5.3E+00 | 5.3E+00 | 6.9E-01 | 6.9E-01 | 6.9E-05 | 6.9E-06 |
| Di-N-octyl phthalate | 17 | 94 | 3.4E+00 | 3.4E+00 | 3.4E-01 | 3.4E-01 | 3.4E-05 | 3.4E-06 |
| Aldrin | 4 | 10 | 1.9E-02 | 1.9E-02 | 3.8E-03 | 3.8E-03 | 3.8E-07 | 3.8E-08 |
| Alpha-Endosulfan | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Beta-Endosulfan | 3 | 10 | 4.0E-03 | 4.0E-03 | 1.1E-03 | 1.1E-03 | 1.1E-07 | 1.1E-08 |
| DDD | 1 | 10 | 5.8E-03 | 5.8E-03 | 5.8E-04 | 5.8E-04 | 5.8E-08 | 5.8E-09 |
| DDE | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| DDT | 4 | 10 | 3.7E-02 | 3.7E-02 | 5.1E-03 | 5.1E-03 | 5.1E-07 | 5.1E-08 |
| Dieldrin | 4 | 10 | 5.2E-03 | 5.2E-03 | 1.7E-03 | 1.7E-03 | 1.7E-07 | 1.7E-08 |
| Endrin | 3 | 10 | 1.5E-02 | 1.5E-02 | 3.9E-03 | 3.9E-03 | 3.9E-07 | 3.9E-08 |
| Gamma-Hexachlorocyclohexane | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Heptachlor | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| Heptachlor epoxide | 1 | 10 | 2.4E-03 | 2.4E-03 | 2.4E-04 | 2.4E-04 | 2.4E-08 | 2.4E-09 |
| Methoxychlor | 2 | 10 | 7.8E-02 | 7.8E-02 | 1.2E-02 | 1.2E-02 | 1.2E-06 | 1.2E-07 |
| PCB 1254 | 0 | 10 | 0.0 | 0.0 | 0.0 | 0.0 | -- | -- |
| PCB 1260 | 4 | 10 | 2.7E-01 | 2.7E-01 | 5.3E-02 | 5.3E-02 | 5.3E-06 | 5.3E-07 |
| Dinitrotoluene, 2,4- | 1 | 112 | 3.7E-01 | 3.7E-01 | 3.3E-03 | 3.3E-03 | 3.3E-07 | 3.3E-08 |
| RDX | 12 | 18 | 1.9E+00 | 1.9E+00 | 4.1E-01 | 4.1E-01 | 4.1E-05 | 4.1E-06 |

TABLE 3-6 EXPOSURE POINT CONCENTRATIONS - BUILDING 313

Exposure Point: Zone 3 - Building 313

Medium: Wipe

Units: mg/m²

U Multiplier: 0

| Chemical | EPC Hits | EPC Total | Max Value | Max Hit | Arith Mean | EPC (mg/m ²) | EPC - Air | |
|--------------------------------|----------|-----------|-----------|---------|------------|--------------------------|--------------------------------|--------------------------------|
| | | | | | | | R = 1E-04 (mg/m ³) | R = 1E-05 (mg/m ³) |
| Antimony | 6 | 133 | 2.9E+01 | 2.9E+01 | 3.3E-01 | 3.3E-01 | 3.3E-05 | 3.3E-06 |
| Arsenic | 12 | 132 | 6.8E-01 | 6.8E-01 | 2.7E-02 | 2.7E-02 | 2.7E-06 | 2.7E-07 |
| Barium | 97 | 133 | 4.8E+01 | 4.8E+01 | 2.8E+00 | 2.8E+00 | 2.8E-04 | 2.8E-05 |
| Beryllium | 0 | 133 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Cadmium | 39 | 133 | 1.1E+01 | 1.1E+01 | 2.0E-01 | 2.0E-01 | 2.0E-05 | 2.0E-06 |
| Chromium | 124 | 133 | 3.5E+01 | 3.5E+01 | 2.0E+00 | 2.0E+00 | 2.0E-04 | 2.0E-05 |
| Lead | 68 | 113 | 1.1E+03 | 1.1E+03 | 3.1E+01 | 3.1E+01 | 3.1E-03 | 3.1E-04 |
| Mercury | 82 | 133 | 4.4E-01 | 4.4E-01 | 2.2E-02 | 2.2E-02 | 2.2E-06 | 2.2E-07 |
| Nickel | 79 | 133 | 3.3E+02 | 3.3E+02 | 8.0E+00 | 8.0E+00 | 8.0E-04 | 8.0E-05 |
| Silver | 44 | 133 | 2.5E+00 | 2.5E+00 | 1.0E-01 | 1.0E-01 | 1.0E-05 | 1.0E-06 |
| Vanadium | 48 | 133 | 3.2E+00 | 3.2E+00 | 1.8E-01 | 1.8E-01 | 1.8E-05 | 1.8E-06 |
| Cyanide | 0 | 0 | — | — | — | — | — | — |
| Nitrite, nitrate - nonspecific | 20 | 32 | 3.0E+01 | 3.0E+01 | 2.3E+00 | 2.3E+00 | 2.3E-04 | 2.3E-05 |
| Acenaphthene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Acenaphthylene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Anthracene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (a) anthracene | 3 | 106 | 1.6E-01 | 1.6E-01 | 4.2E-03 | 4.2E-03 | 4.2E-07 | 4.2E-08 |
| Benzo (a) pyrene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Benzo (b) fluoranthene | 2 | 106 | 3.3E+00 | 3.3E+00 | 3.9E-02 | 3.9E-02 | 3.9E-06 | 3.9E-07 |
| Benzo (g,h,i) perylene | 2 | 106 | 1.8E+00 | 1.8E+00 | 2.2E-02 | 2.2E-02 | 2.2E-06 | 2.2E-07 |
| Benzo (k) fluoranthene | 1 | 106 | 1.3E-01 | 1.3E-01 | 1.2E-03 | 1.2E-03 | 1.2E-07 | 1.2E-08 |
| Chrysene | 3 | 106 | 1.9E-01 | 1.9E-01 | 3.7E-03 | 3.7E-03 | 3.7E-07 | 3.7E-08 |
| Dibenz (a,h) anthracene | 1 | 106 | 6.5E-01 | 6.5E-01 | 6.1E-03 | 6.1E-03 | 6.1E-07 | 6.1E-08 |
| Fluoranthene | 5 | 106 | 8.2E-01 | 8.2E-01 | 1.5E-02 | 1.5E-02 | 1.5E-06 | 1.5E-07 |
| Fluorene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Methylnaphthalene, 2- | 3 | 106 | 9.3E-02 | 9.3E-02 | 2.4E-03 | 2.4E-03 | 2.4E-07 | 2.4E-08 |
| Naphthalene | 0 | 106 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| Phenanthrene | 10 | 106 | 1.7E-01 | 1.7E-01 | 6.6E-03 | 6.6E-03 | 6.6E-07 | 6.6E-08 |
| Pyrene | 1 | 106 | 8.0E-02 | 8.0E-02 | 7.6E-04 | 7.6E-04 | 7.6E-08 | 7.6E-09 |
| Bis (2-ethylhexyl) phthalate | 156 | 212 | 8.5E+00 | 8.5E+00 | 1.4E+00 | 1.4E+00 | 1.4E-04 | 1.4E-05 |
| Butylbenzyl phthalate | 29 | 106 | 9.9E+00 | 9.9E+00 | 1.1E+00 | 1.1E+00 | 1.1E-04 | 1.1E-05 |
| Di-N-butyl phthalate | 16 | 106 | 4.1E+00 | 4.1E+00 | 2.6E-01 | 2.6E-01 | 2.6E-05 | 2.6E-06 |
| Di-N-octyl phthalate | 3 | 106 | 2.5E+00 | 2.5E+00 | 6.5E-02 | 6.5E-02 | 6.5E-06 | 6.5E-07 |
| Aldrin | 0 | 0 | — | — | — | — | — | — |
| Alpha-Endosulfan | 0 | 0 | — | — | — | — | — | — |
| Beta-Endosulfan | 0 | 0 | — | — | — | — | — | — |
| DDD | 0 | 0 | — | — | — | — | — | — |
| DDE | 0 | 0 | — | — | — | — | — | — |
| DDT | 0 | 0 | — | — | — | — | — | — |
| Dieldrin | 0 | 0 | — | — | — | — | — | — |
| Endrin | 0 | 0 | — | — | — | — | — | — |
| Gamma-Hexachlorocyclohexane | 0 | 0 | — | — | — | — | — | — |
| Heptachlor | 0 | 0 | — | — | — | — | — | — |
| Heptachlor epoxide | 0 | 0 | — | — | — | — | — | — |
| Methoxychlor | 0 | 0 | — | — | — | — | — | — |
| PCB 1254 | 0 | 1 | 0.0 | 0.0 | 0.0 | 0.0 | — | — |
| PCB 1260 | 1 | 1 | 2.3E-01 | 2.3E-01 | 2.3E-01 | 2.3E-01 | 2.3E-05 | 2.3E-06 |
| Dinitrotoluene, 2,4- | 9 | 138 | 2.9E+01 | 2.9E+01 | 4.6E-01 | 4.6E-01 | 4.6E-05 | 4.6E-06 |
| RDX | 20 | 32 | 2.8E+00 | 2.8E+00 | 4.7E-01 | 4.7E-01 | 4.7E-05 | 4.7E-06 |

TABLE 3-7 EXPERIMENTALLY DERIVED RESUSPENSION FACTORS*

| <u>Contaminant</u> | <u>Surface Measurement</u> | <u>Activity Description</u> | <u>Measured Resuspension Factor, m⁻¹</u> |
|-------------------------------|----------------------------|---|---|
| 1. Radioactive labeled iodine | Total, by ratemeter | Active Work (open and confined spaces) | 2E-06 to 4E-05 |
| 2. Uranium | Total, by ratemeter | Normal occupational | 6E-05 |
| 3. Uranium compounds | Transferred by wipe | Normal occupational | 3E-05 to 5E-04 |
| 4. Radium | Transferred by wipe | Normal occupational | 1E-05 to 7E-08 |
| 5. Beryllium | Transferred by wipe | Miscellaneous occupational | 2E-02 to 8E-03 |
| 6. Uranium compounds | Transferred by wipe | Normal occupational | 3E-04 to 1E-03 |
| 7. Plutonium compounds | Total, by ratemeter | Walking | 5E-04 to 5E-05 |
| 8. Zinc sulfide powder | Unknown | Vigorous work with sweeping to light work | 2E-04 to 9E-06 |
| 9. Copper oxide powder | Unknown | Light work and sweeping | 7E-04 |
| 10. Uranium | Transferred by wipe | Continuous cart movement to undisturbed | 1E-04 |
| 11. Uranium powder | Transferred by wipe | Normal | 2E-05 to 2E-04 |
| | | Normal - with added ventilation and vibration | 2E-03 |

continued-

* Adapted and summarized from Sansone, 1989.

Table 3-7 - continued

| <u>Contaminant</u> | <u>Surface Measurement</u> | <u>Activity Description</u> | <u>Measured Resuspension Factor, m⁻¹</u> |
|--------------------------|----------------------------|-----------------------------|---|
| 12. Beryllium | Transferred by wipe | Vigorous sweeping | 4E-04 |
| 13. Uranium oxide powder | Total, by ratemeter | Walking to undisturbed | 2E-05 to 1E-06 |
| 14. Plutonium oxide | Total, by ratemeter | Walking | 2E-04 to 2E-07 |
| 15. Plutonium compounds | Total, by ratemeter | Walking | 2E-05 to 1E-06 |
| 16. Beryllium | Transferred by wipe | Vigorous sweeping | 1E-02 to 4E-04 |
| 17. Uranium oxide powder | Total, by ratemeter | Walking | 2E-05 |

**TABLE 3-8 SUMMARY OF VALUES USED IN SELECTING
THE RESUSPENSION FACTOR**

| <u>Values Reported for Under Routine Occupational Conditions</u> | | <u>Values Reported Under Vigorous Occupational Conditions</u> | |
|--|--------------|---|--------------|
| <u>Study No.*</u> | <u>Value</u> | <u>Study No.*</u> | <u>Value</u> |
| 5 | 2E-02 | 16 | 1E-02 |
| 5 | 8E-03 | 11 | 2E-03 |
| 6 | 1E-03 | 9 | 7E-04 |
| 6 | 3E-04 | 16 | 4E-04 |
| 3 | 5E-04 | 12 | 4E-04 |
| 7 | 5E-04 | 8 | 2E-04 |
| 11 | 2E-04 | 10 | 1E-04 |
| 14 | 2E-04 | 1 | 4E-05 |
| 2 | 6E-05 | 1 | 2E-06 |
| 7 | 5E-05 | | |
| 3 | 3E-05 | | |
| 17 | 2E-05 | | |
| 11 | 2E-05 | | |
| 13 | 2E-05 | | |
| 15 | 2E-05 | | |
| 4 | 1E-05 | | |
| 14 | 2E-07 | | |
| 8 | 9E-06 | | |
| 13 | 1E-06 | | |
| 15 | 1E-06 | | |
| 4 | 7E-08 | | |

* Study number references the experiments from Table 3-7.

TABLE 3-9 QUANTIFICATION OF EXPOSURE FROM INHALATION OF CONTAMINATION
RELEASED FROM INTERIOR BUILDING SURFACES

Basic Equation: $HIF = (IR \cdot RFR \cdot EF \cdot ED) / (BW \cdot AT)$

Where:

- HIF = Human intake factor
 IR = Breathing rate (m^3/day)
 RFR = Respirable fraction (unitless)
 EF = Exposure frequency (days/year)
 ED = Exposure duration (years)
 BW = Body weight (kg)
 AT = Averaging time (days)

| Exposure | Units | Resident | | | Worker | |
|--------------------|-------------------|------------|---------|-------------------|------------|------------|
| | | Child | | Adult Lifetime | Commercial | Renovation |
| | | Subchronic | Chronic | | | |
| IR | m^3/day | 15 | 15 | 15 | 9.6 | 20 |
| RFR | unitless | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| EF | days/year | 350 | 350 | 350 | 250 | 250 |
| ED | years | 1 | 7 | 30 | 25 | 1 |
| BW | kg | 10.5 | 16.8 | 42.3 | 70 | 70 |
| AT (Noncancer) | yr · 365 day/year | 1 | 7 | NA* | 25 | 1 |
| AT (Cancer) | yr · 365 day/year | NA | NA | 70 | 70 | 70 |
| HIF_e or HIF_i | $m^3/kg/day$ | 2.7E-01 | 1.7E-01 | NA | 1.9E-02 | 3.9E-02 |
| HIF_i | $m^3/kg/day$ | NA | NA | 2.9E-02 | 6.7E-03 | 5.6E-04 |

* NA = Not Applicable.

**TABLE 3-10 QUANTIFICATION OF EXPOSURE FROM INGESTION OF CONTAMINATION
FROM INTERIOR BUILDING SURFACES**

Basic Equation: $HIF = (IR \cdot EF \cdot ED)/(BW \cdot AT)$

Where:

- HIF = Human intake factor
- IR = Ingestion rate (m²/day)
- EF = Exposure frequency (days/year)
- ED = Exposure duration (years)
- BW = Body weight (kg)
- AT = Averaging time (days)

| Exposure | Units | Resident | | | Worker | |
|--------------------------------------|------------------------|----------|---------|-------------------|------------|------------|
| | | Child | Chronic | Adult Lifetime | Commercial | Renovation |
| IR | m ² /day | 1E-03 | 1E-03 | 1E-03 | 1E-04 | 1E-04 |
| EF | days/year | 350 | 350 | 350 | 250 | 250 |
| ED | years | 1 | 7 | 30 | 25 | 1 |
| BW | kg | 10.5 | 16.8 | 42.3 | 70 | 70 |
| AT (Noncancer) | yr · 365 day/year | 1 | 7 | NA* | 25 | 1 |
| AT (Cancer) | yr · 365 day/year | NA | NA | 70 | 70 | 70 |
| HIF _s or HIF _c | m ² /kg/day | 9.1E-05 | 5.7E-05 | NA | 9.8E-07 | 9.8E-07 |
| HIF _i | m ² /kg/day | NA | NA | 9.7E-06 | 3.5E-07 | 1.4E-08 |

* NA = Not Applicable.

**TABLE 3-11 QUANTIFICATION OF EXPOSURE FROM DERMAL CONTACT WITH
CONTAMINATION FROM INTERIOR BUILDING SURFACES**

Basic Equation: $HIF = (SA \cdot SF \cdot ABS \cdot EF \cdot ED) / (BW \cdot AT)$

Where:

- HIF = Human intake factor
- SA = Surface area exposed, both hands (m²)
- SF = Fraction removed from surface (unitless)
- ABS = Absorption fraction from solid material (unitless)
- EF = Exposure frequency (events/year)
- ED = Exposure duration (years)
- BW = Body weight (kg)
- AT = Averaging time (days)

| Exposure | Units | Resident | | | Worker | |
|--------------------------------------|------------------------------|------------|---------|----------|------------|------------|
| | | Child | Chronic | Adult | Commercial | Renovation |
| | | Subchronic | | Lifetime | | |
| SA | m ² | 0.0292 | 0.0406 | 0.0946 | 0.0946 | NA |
| SF | unitless | 0.1 | 0.1 | 0.1 | 0.1 | NA |
| EF | events/year | 350 | 350 | 350 | 250 | NA |
| ED | years | 1 | 7 | 30 | 25 | NA |
| BW | kg | 10.5 | 16.8 | 42.3 | 70 | NA |
| AT (Noncancer) | yr · 365 day/year | 1 | 7 | NA* | 25 | NA |
| AT (Cancer) | yr · 365 day/year | NA | NA | 70 | 70 | NA |
| HIF _c or HIF _e | ABS · m ² /kg/day | 2.7E-04 | 2.3E-04 | NA | 9.3E-05 | NA |
| HIF _i | ABS · m ² /kg/day | NA | NA | 9.2E-05 | 3.3E-05 | NA |

* NA = Not Applicable.

**TABLE 4-1 SUMMARY OF NONCARCINOGENIC EFFECTS AND TOXICITY
VALUES FOR ORAL EXPOSURE TO CHEMICALS OF POTENTIAL CONCERN**

| Chemical | Critical Effects | Subchronic RfD ^(a) , mg/kg-day | Chronic RfD ^(b) , mg/kg-day | Confidence |
|--------------------------------|--|---|--|------------|
| Antimony | Increased mortality, altered chemistries | 4.0E-04 | 4.0E-04 | Low |
| Arsenic | Keratosis, hyperpigmentation | 3.0E-04 | 3.0E-04 | Medium |
| Barium | Increased blood pressure | 7.0E-02 | 7.0E-02 | Medium |
| Beryllium | None observed | 5.0E-03 | 5.0E-03 | Low |
| Cadmium (food,soil) | Significant proteinuria | -- | 1.0E-03 | High |
| Chromium (VI) | None observed | 2.0E-02 | 5.0E-03 | Low |
| Lead and Compounds | Neurological and reproductive effects, hypertension, inhibition of heme synthesis | -- | -- | -- |
| Mercury, inorganic | Kidney effects | 3.0E-04 | 3.0E-04 ^(c) | -- |
| Nickel | Decreased organ and body weight | 2.0E-02 | 2.0E-02 | Medium |
| Silver | Skin discoloration (argyria) | 5.0E-03 | 5.0E-03 | Low |
| Vanadium | None observed | 7.0E-03 | 7.0E-03 ^(c) | -- |
| Cyanide (free) | Decreased body weight, thyroid effects, myelin degeneration | 2.0E-02 | 2.0E-02 | Medium |
| Nitrate, nitrate - nonspecific | Methemoglobinemia | 1.0E-01 | 1.0E-01 | High |
| Acenaphthene | Hepatotoxicity | 6.00E-01 | 6.0E-02 | Low |
| Acenaphthylene | Effects judged to be similar to acenaphthene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Anthracene | None observed | 3.0E+00 | 3.0E-01 | Low |
| Benzo (a) anthracene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Benzo (a) pyrene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Benzo (b) fluoranthene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Benzo (g,h,i) perylene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Benzo (k) fluoranthene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Chrysene | Effects judged to be similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Dibenz (a,h) anthracene | Effects judged similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Fluoranthene | Nephropathy, increased liver weight, hematological changes | 4.0E-01 | 4.0E-02 | Low |
| Fluorene | Decreased red blood cell count | 4.0E-01 | 4.0E-02 | Low |
| Methylnaphthalene, 2- | Effects judged similar to naphthalene | 4.0E-02 ^(d) | 4.0E-02 ^(d) | -- |
| Naphthalene | Decreased body weight | 4.0E-02 ^(e) | 4.0E-02 ^(e) | -- |
| Phenanthrene | Effects judged similar to pyrene | 3.0E-01 ^(f) | 3.0E-02 ^(f) | -- |
| Pyrene | Kidney effects | 3.0E-01 | 3.0E-02 | Low |
| Bis (2-ethylhexyl) phthalate | Increased liver weight | 2.0E-02 | 2.0E-02 | Medium |
| Butylbenzyl phthalate | Altered liver weight | 2.0E+00 | 2.0E-01 | Low |
| Di-n-butyl phthalate | Increased mortality | 1.0E+00 | 1.0E-01 | Low |
| Di-n-octyl phthalate | Liver and kidney effects | 2.0E-02 | 2.0E-02 ^(e) | -- |
| Aldrin | Liver lesions | 3.0E-05 | 3.0E-05 | Medium |
| Alpha-Endosulfan | Kidney lesions | 2.0E-04 | 5.0E-05 ^(e) | -- |
| Beta-Endosulfan | Kidney lesions | 2.0E-04 | 5.0E-05 ^(e) | -- |
| DDD, 4,4'- | -- | -- | -- | -- |
| DDE, 4,4'- | -- | -- | -- | -- |
| DDT, 4,4'- | Liver lesions | 5.0E-04 | 5.0E-04 | Medium |
| Dieldrin | Liver lesions | 5.0E-05 | 5.0E-05 | Medium |
| Endrin | Convulsions, liver lesions | 3.0E-04 | 3.0E-04 | Medium |
| Gamma-BHC (Lindane) | Liver and kidney toxicity | 3.0E-03 | 3.0E-04 | Medium |
| Heptachlor | Increased liver weight | 5.0E-04 | 5.0E-04 | Low |
| Heptachlor epoxide | Increased liver weight | 1.3E-05 | 1.3E-05 | Low |

Table 4-1 - continued

| <u>Chemical</u> | <u>Critical Effects</u> | <u>Subchronic RfD, mg/kg-day</u> | <u>Chronic RfD, mg/kg-day</u> | <u>Confidence</u> |
|----------------------|--|--|---------------------------------------|-------------------|
| Methoxychlor | Reproductive/developmental effects | 5.0E-03 | 5.0E-03 | Low |
| PCB 1254 | Reduced birth weights | 7.0E-05 | 7.0E-05 | Medium |
| PCB 1260 | Reduced birth weights | 7.0E-05 | 7.0E-05 | Medium |
| Dinitrotoluene, 2,4- | Neurotoxicity, Heinz body formation, and biliary tract hyperplasia | 2.0E-03 | 2.0E-03 | High |
| RDX | Prostate inflammation | 3.0E-03 | 3.0E-03 | High |

**TABLE 4-2 SUMMARY OF NONCARCINOGENIC EFFECTS AND
TOXICITY VALUES FOR INHALATION EXPOSURE TO
CHEMICALS OF POTENTIAL CONCERN**

| Chemical | Critical Effects | Subchronic | | Chronic | | Confidence |
|--------------------------------|------------------------|--|----------------------------------|--|----------------------------------|------------|
| | | RfC, ^(a) mg/m ³ | RfD, ^(b) mg/kg/day | RfC, ^(c) mg/m ³ | RfD, ^(b) mg/kg/day | |
| Antimony | -- | -- | -- | -- | -- | -- |
| Arsenic | -- | -- | -- | -- | -- | -- |
| Barium | Fetotoxicity | 5.0E-03 ^(d) | 1.4E-03 | 5.0E-04 ^(e) | 1.4E-04 | -- |
| Beryllium | -- | -- | -- | -- | -- | -- |
| Cadmium (food,soil) | -- | -- | -- | -- | -- | -- |
| Chromium (VI) | Diffuse nasal symptoms | 4.0E-06 ^(e) | 1.1E-06 | -- | -- | -- |
| Lead and Compounds | -- | -- | -- | -- | -- | -- |
| Mercury, inorganic | -- | -- | -- | -- | -- | -- |
| Nickel | -- | -- | -- | -- | -- | -- |
| Silver | -- | -- | -- | -- | -- | -- |
| Vanadium | -- | -- | -- | -- | -- | -- |
| Cyanide (free) | -- | -- | 2.9E-04 | -- | 2.0E-03 | -- |
| Nitrate, nitrate - nonspecific | -- | -- | -- | -- | -- | -- |
| Acenaphthene | -- | -- | -- | -- | -- | -- |
| Acenaphthylene | -- | -- | -- | -- | -- | -- |
| Anthracene | -- | -- | -- | -- | -- | -- |
| Benzo (a) anthracene | -- | -- | -- | -- | -- | -- |
| Benzo (a) pyrene | -- | -- | -- | -- | -- | -- |
| Benzo (b) fluoranthene | -- | -- | -- | -- | -- | -- |
| Benzo (g,h,i) perylene | -- | -- | -- | -- | -- | -- |
| Benzo (k) fluoranthene | -- | -- | -- | -- | -- | -- |
| Chrysene | -- | -- | -- | -- | -- | -- |
| Dibenz (a,h) anthracene | -- | -- | -- | -- | -- | -- |
| Fluoranthene | -- | -- | -- | -- | -- | -- |
| Fluorene | -- | -- | -- | -- | -- | -- |
| Methylnaphthalene, 2- | -- | -- | -- | -- | -- | -- |
| Naphthalene | -- | -- | -- | -- | -- | -- |
| Phenanthrene | -- | -- | -- | -- | -- | -- |
| Pyrene | -- | -- | -- | -- | -- | -- |
| Bis (2-ethylhexyl) phthalate | -- | -- | -- | -- | -- | -- |
| Butylbenzyl phthalate | -- | -- | -- | -- | -- | -- |
| Di-n-butyl phthalate | -- | -- | -- | -- | -- | -- |
| Di-n-octyl phthalate | -- | -- | -- | -- | -- | -- |
| Aldrin | -- | -- | -- | -- | -- | -- |
| Alpha-Endosulfan | -- | -- | -- | -- | -- | -- |
| Beta-Endosulfan | -- | -- | -- | -- | -- | -- |
| DDD, 4,4'- | -- | -- | -- | -- | -- | -- |
| DDE, 4,4'- | -- | -- | -- | -- | -- | -- |
| DDT, 4,4'- | -- | -- | -- | -- | -- | -- |
| Dieldrin | -- | -- | -- | -- | -- | -- |
| Endrin | -- | -- | -- | -- | -- | -- |
| Gamma-BHC (Lindane) | -- | -- | -- | -- | -- | -- |
| Heptachlor | -- | -- | -- | -- | -- | -- |
| Heptachlor epoxide | -- | -- | -- | -- | -- | -- |
| Methoxychlor | -- | -- | -- | -- | -- | -- |
| PCB 1254 | -- | -- | -- | -- | -- | -- |

Table 4-2 - continued

| <u>Chemical</u> | <u>Critical Effects</u> | <u>Subchronic</u> | | <u>Chronic</u> | | <u>Confidence</u> |
|----------------------|-------------------------|----------------------------------|---------------------------|----------------------------------|---------------------------|-------------------|
| | | <u>RfC, mg/m³</u> | <u>RfD, mg/kg/day</u> | <u>RfC, mg/m³</u> | <u>RfD, mg/kg/day</u> | |
| PCB 1260 | - | - | - | - | - | - |
| Dinitrotoluene, 2,4- | - | - | - | - | - | - |
| RDX | - | - | - | - | - | - |

**TABLE 4-3 SUMMARY OF CARCINOGENIC EFFECTS AND SLOPE FACTORS FOR
CHEMICALS OF POTENTIAL CONCERN**

| Chemical | Weight of Evidence | Oral | | | Inhalation | | |
|------------------------------|--------------------|-------------------|---|---|-------------------|---|---|
| | | Tumor Site/Type | Unit Risk ^(a) , (μg/L) ⁻¹ | Slope Factor ^(b) , (mg/kg/day) ⁻¹ | Tumor Site/Type | Unit Risk ^(a) , (μg/m ³) ⁻¹ | Slope Factor ^(a) , (mg/kg/day) ⁻¹ |
| Aldrin | B2 | Liver | 4.9E-04 | 1.7E+01 | Liver | 4.9E-03 | 1.7E+01 |
| Arsenic | A | Skin and internal | 5.0E-05 | 1.8E+00 | Lung | 4.3E-03 | 1.5E+01 ^(d) |
| Benzo (a) anthracene | B2 | Stomach | 2.1E-04 ^a | 7.3E+00 ^a | Lung | -- | -- |
| Benzo (a) pyrene | B2 | Stomach | 2.1E-04 | 7.3E+00 | Lung | -- | -- |
| Benzo (b) fluoranthene | B2 | Stomach | 2.1E-04 ^a | 7.3E+00 ^a | Lung | -- | -- |
| Benzo (k) fluoranthene | B2 | Stomach | 2.1E-04 ^a | 7.3E+00 ^a | Lung | -- | -- |
| Beryllium | B2 | Bone | 1.2E-04 | 4.3E+00 | Lung | 2.4E-03 | 8.4E+00 |
| Bis (2-ethylhexyl) phthalate | B2 | Liver | 4.0E-07 | 1.4E-02 | -- | -- | -- |
| Butylbenzyl phthalate | C | Leukemia | -- | -- | -- | -- | -- |
| Cadmium (food, soil) | B1 (inhalation) | -- | -- | -- | Respiratory tract | 1.8E-03 | 6.1E+00 |
| Chromium (VI) | A | -- | -- | -- | Lung | 1.2E-02 | 4.2E+01 |
| Chrysene | B2 | Stomach | 2.1E-04 ^a | 7.3E+00 ^a | Lung | -- | -- |
| DDD, 4,4'- | B2 | Liver | 6.9E-06 | 2.4E-01 | -- | -- | -- |
| DDE, 4,4'- | B2 | Liver | 9.7E-06 | 3.4E-01 | -- | -- | -- |
| DDT, 4,4'- | B2 | Liver | 9.7E-06 | 3.4E-01 | Liver | 9.7E-05 | 3.4E-01 |
| Dibenz (a,h) anthracene | B2 | Stomach | 2.1E-04 ^a | 7.3E+00 ^a | Lung | -- | -- |
| Diethrin | B2 | Liver | 4.6E-04 | 1.6E+01 | Liver | 4.6E-03 | 1.6E+01 |
| Dinitrotoluene, 2,4- | B2 | Kidney | 1.9E-05 ^b | 6.8E-01 ^b | -- | -- | -- |
| Gamma-BHC (Lindane) | B2/C | Liver | 3.7E-05 ^b | 1.3E+00 ^a | -- | -- | -- |
| Heptachlor | B2 | Liver | 1.3E-04 | 4.5E+00 | Liver | 1.3E-03 | 4.5E+00 |
| Heptachlor epoxide | B2 | Liver | 2.6E-04 | 9.1E+00 | Liver | 2.6E-03 | 9.1E+00 |
| Lead and Compounds | B2 | Kidney | -- | -- | -- | -- | -- |
| Nickel | A (inhalation) | -- | -- | -- | Lung | 2.4E-04 ^b | 8.4E-01 ^(a) |
| PCB 1254 | B2 | Liver | 2.2E-04 | 7.7E+00 | -- | -- | -- |
| PCB 1260 | B2 | Liver | 2.2E-04 | 7.7E+00 | -- | -- | -- |
| DDX | C | Liver | 3.1E-06 | 1.1E-01 | -- | -- | -- |

**TABLE 4-4 SUMMARY OF EXTRAPOLATED DERMAL TOXICITY VALUES FOR
CHEMICALS OF POTENTIAL CONCERN**

| <u>Chemical</u> | <u>Subchronic RfD</u> | <u>Chronic RfD</u> | <u>Slope Factor</u> |
|--------------------------------|---------------------------|------------------------|-------------------------|
| Antimony | 4.0E-05 | 4.0E-05 | NA |
| Arsenic | 2.9E-04 | 2.9E-04 | 1.8E+00 |
| Barium | 7.0E-03 | 7.0E-03 | NA |
| Beryllium | 2.5E-05 | 2.5E-05 | 8.6E+02 |
| Cadmium (food,soil) | NA | 2.5E-05 | NA |
| Chromium (VI) | 1.0E-03 | 2.5E-04 | NA |
| Lead and Compounds | NA | NA | NA |
| Mercury, inorganic | 6.0E-06 | 6.0E-06 | NA |
| Nickel | 1.0E-03 | 1.0E-03 | NA |
| Silver | 2.5E-04 | 2.5E-04 | NA |
| Vanadium | 7.0E-05 | 7.0E-05 | NA |
| Cyanide (free) | 2.0E-02 | 2.0E-02 | NA |
| Nitrate, nitrate - nonspecific | 1.0E-01 | 1.0E-01 | NA |
| Acenaphthene | NA | NA | NA |
| Acenaphthylene | NA | NA | NA |
| Anthracene | NA | NA | NA |
| Benzo (a) anthracene | NA | NA | NA |
| Benzo (a) pyrene | NA | NA | NA |
| Benzo (b) fluoranthene | NA | NA | NA |
| Benzo (g,h,i) perylene | NA | NA | NA |
| Benzo (k) fluoranthene | NA | NA | NA |
| Chrysene | NA | NA | NA |
| Dibenz (a,h) anthracene | NA | NA | NA |
| Fluoranthene | NA | NA | NA |
| Fluorene | NA | NA | NA |
| Methylnaphthalene, 2- | NA | NA | NA |
| Naphthalene | NA | NA | NA |
| Phenanthrene | NA | NA | NA |
| Pyrene | NA | NA | NA |
| Bis (2-ethylhexyl) phthalate | 2.0E-02 | 2.0E-02 | 1.4E-02 |
| Butylbenzyl phthalate | 2.0E+00 | 2.0E-01 | NA |
| Di-n-butyl phthalate | 8.5E-01 | 8.5E-02 | NA |
| Di-n-octyl phthalate | 2.0E-02 | 2.0E-02 | NA |
| Aldrin | 3.0E-05 | 3.0E-05 | 1.7E+01 |
| Alpha-Endosulfan | 2.0E-04 | 5.0E-05 | NA |
| Beta-Endosulfan | 2.0E-04 | 5.0E-05 | NA |
| DDD, 4,4'- | NA | NA | 2.4E-01 |
| DDE, 4,4'- | NA | NA | 3.4E-01 |
| DDT, 4,4'- | 5.0E-04 | 5.0E-04 | 3.4E-01 |
| Dieldrin | 5.0E-05 | 5.0E-05 | 1.6E+01 |

Table 4-4 - continued

| <u>Chemical</u> | <u>Subchronic RfD</u> | <u>Chronic RfD</u> | <u>Slope Factor</u> |
|----------------------|---------------------------|------------------------|-------------------------|
| Endrin | 3.0E-04 | 3.0E-04 | NA |
| Gamma-BHC (Lindane) | 3.0E-03 | 3.0E-04 | 1.3E+00 |
| Heptachlor | 5.0E-04 | 5.0E-04 | 4.5E+00 |
| Heptachlor epoxide | 1.3E-05 | 1.3E-05 | 9.1E+00 |
| Methoxychlor | 5.0E-03 | 5.0E-03 | NA |
| PCB 1254 | 6.7E-05 | 6.7E-05 | 8.1E+00 |
| PCB 1260 | 6.7E-05 | 6.7E-05 | 8.1E+00 |
| Dinitrotoluene, 2,4- | 2.0E-03 | 2.0E-03 | 6.8E-01 |
| RDX | 3.0E-03 | 3.0E-03 | 1.1E-01 |

TABLE 5-1 SUMMARY OF CARCINOGENIC RISKS TO POTENTIALLY EXPOSED POPULATIONS

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Cancer Risk</u> |
|---------------------------|-----------------------|------------------------|-----------------------|--------------------|
| Future Resident | Bldg. 39 | Interior Residue | Oral | 5E-05 |
| | Bldg. 39 | Interior Residue | Dermal | 2E-05 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>1E-04</u> |
| | | | Total: | 2E-04 |
| Future Comm. Worker | Bldg. 39 | Interior Residue | Oral | 1E-06 |
| | Bldg. 39 | Interior Residue | Dermal | 8E-06 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>2E-05</u> |
| | | | Total: | 3E-05 |
| Future Renov. Worker | Bldg. 39 | Interior Residue | Oral | 6E-08 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>2E-05</u> |
| | | | Total: | 2E-05 |
| Future Resident | Bldg. 311 | Interior Residue | Oral | 8E-06 |
| | Bldg. 311 | Interior Residue | Dermal | 9E-07 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>5E-05</u> |
| | | | Total: | 6E-05 |
| Future Comm. Worker | Bldg. 311 | Interior Residue | Oral | 3E-07 |
| | Bldg. 311 | Interior Residue | Dermal | 3E-07 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>1E-05</u> |
| | | | Total: | 1E-05 |
| Future Renov. Worker | Bldg. 311 | Interior Residue | Oral | 1E-08 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>1E-05</u> |
| | | | Total: | 1E-05 |
| Future Resident | Bldg. 312 | Interior Residue | Oral | 6E-05 |
| | Bldg. 312 | Interior Residue | Dermal | 1E-04 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>7E-05</u> |
| | | | Total: | 2E-04 |

continued-

Table 5-1 - continued

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Cancer Risk</u> |
|---------------------------|-----------------------|------------------------|-----------------------|--------------------|
| Future Comm. Worker | Bldg. 312 | Interior Residue | Oral | 2E-06 |
| | Bldg. 312 | Interior Residue | Dermal | 4E-05 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>1E-05</u> |
| | | | Total: | 5E-05 |
| Future Renov. Worker | Bldg. 312 | Interior Residue | Oral | 9E-08 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>1E-05</u> |
| | | | Total: | 1E-05 |
| Future Resident | Bldg. 37 | Interior Residue | Oral | 1E-05 |
| | Bldg. 37 | Interior Residue | Dermal | 2E-06 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>2E-04</u> |
| | | | Total: | 2E-04 |
| Future Comm. Worker | Bldg. 37 | Interior Residue | Oral | 3E-07 |
| | Bldg. 37 | Interior Residue | Dermal | 7E-07 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>4E-05</u> |
| | | | Total: | 4E-05 |
| Future Renov. Worker | Bldg. 37 | Interior Residue | Oral | 1E-08 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>4E-05</u> |
| | | | Total: | 4E-05 |
| Future Resident | Bldg. 313 | Interior Residue | Oral | 3E-05 |
| | Bldg. 313 | Interior Residue | Dermal | 1E-05 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>2E-05</u> |
| | | | Total: | 6E-05 |
| Future Comm. Worker | Bldg. 313 | Interior Residue | Oral | 9E-07 |
| | Bldg. 313 | Interior Residue | Dermal | 4E-06 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>7E-06</u> |
| | | | Total: | 1E-05 |
| Future Renov. Worker | Bldg. 313 | Interior Residue | Oral | 3E-08 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>5E-06</u> |
| | | | Total: | 5E-06 |

**TABLE 5-2 SUMMARY OF NONCARCINOGENIC SUBCHRONIC HAZARD
INDICES FOR POTENTIALLY EXPOSED POPULATIONS**

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Subchronic Hazard Index</u> |
|---------------------------|-----------------------|------------------------|-----------------------|--------------------------------|
| Future Resident | Bldg. 39 | Interior Residue | Oral | 9E-01 |
| | Bldg. 39 | Interior Residue | Dermal | 1E-01 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>2E+01</u> |
| | | | Total: | 2E+01 |
| Future Renov. Worker | Bldg. 39 | Interior Residue | Oral | 1E-02 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>3E+01</u> |
| | | | Total: | 3E+01 |
| Future Resident | Bldg. 311 | Interior Residue | Oral | 3E-01 |
| | Bldg. 311 | Interior Residue | Dermal | 1E-02 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>1E+01</u> |
| | | | Total: | 1E+01 |
| Future Renov. Worker | Bldg. 311 | Interior Residue | Oral | 3E-03 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>1E+01</u> |
| | | | Total: | 1E+01 |
| Future Resident | Bldg. 312 | Interior Residue | Oral | 3E-01 |
| | Bldg. 312 | Interior Residue | Dermal | 3E-02 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>9E+00</u> |
| | | | Total: | 9E+00 |
| Future Renov. Worker | Bldg. 312 | Interior Residue | Oral | 3E-03 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>1E+01</u> |
| | | | Total: | 1E+01 |
| Future Resident | Bldg. 37 | Interior Residue | Oral | 3E-01 |
| | Bldg. 37 | Interior Residue | Dermal | 2E-02 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>4E+01</u> |
| | | | Total: | 4E+01 |

continued-

Table 5-2 - continued

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Subchronic Hazard Index</u> |
|---------------------------|-----------------------|------------------------|-----------------------|--------------------------------|
| Future Renov. Worker | Bldg. 37 | Interior Residue | Oral | 3E-03 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>5E+01</u> |
| | | | Total: | 5E+01 |
| Future Resident | Bldg. 313 | Interior Residue | Oral | 5E-01 |
| | Bldg. 313 | Interior Residue | Dermal | 7E-02 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>5E+00</u> |
| | | | Total: | 6E+00 |
| Future Renov. Worker | Bldg. 313 | Interior Residue | Oral | 5E-03 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>7E+00</u> |
| | | | Total: | 7E+00 |

**TABLE 5-3 SUMMARY OF NONCARCINOGENIC CHRONIC HAZARD INDICES
FOR POTENTIALY EXPOSED POPULATIONS**

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Chronic Hazard Index</u> |
|---------------------------|-----------------------|------------------------|-----------------------|-----------------------------|
| Future Resident | Bldg. 39 | Interior Residue | Oral | 7E-01 |
| | Bldg. 39 | Interior Residue | Dermal | 2E-01 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>6E-02</u> |
| | | | Total: | 1E+00 |
| Future Comm. Worker | Bldg. 39 | Interior Residue | Oral | 1E-02 |
| | Bldg. 39 | Interior Residue | Dermal | 1E-01 |
| | Bldg. 39 | Indoor Air | Inhalation | <u>7E-03</u> |
| | | | Total: | 1E-01 |
| Future Resident | Bldg. 311 | Interior Residue | Oral | 2E-01 |
| | Bldg. 311 | Interior Residue | Dermal | 8E-02 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>7E-02</u> |
| | | | Total: | 4E-01 |
| Future Comm. Worker | Bldg. 311 | Interior Residue | Oral | 4E-03 |
| | Bldg. 311 | Interior Residue | Dermal | 4E-02 |
| | Bldg. 311 | Indoor Air | Inhalation | <u>8E-03</u> |
| | | | Total: | 5E-02 |
| Future Resident | Bldg. 312 | Interior Residue | Oral | 8E-01 |
| | Bldg. 312 | Interior Residue | Dermal | 9E-01 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>4E-02</u> |
| | | | Total: | 2E+00 |
| Future Comm. Worker | Bldg. 312 | Interior Residue | Oral | 1E-02 |
| | Bldg. 312 | Interior Residue | Dermal | 4E-01 |
| | Bldg. 312 | Indoor Air | Inhalation | <u>5E-03</u> |
| | | | Total: | 4E-01 |
| Future Resident | Bldg. 37 | Interior Residue | Oral | 4E-01 |
| | Bldg. 37 | Interior Residue | Dermal | 7E-02 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>1E-01</u> |
| | | | Total: | 6E-01 |

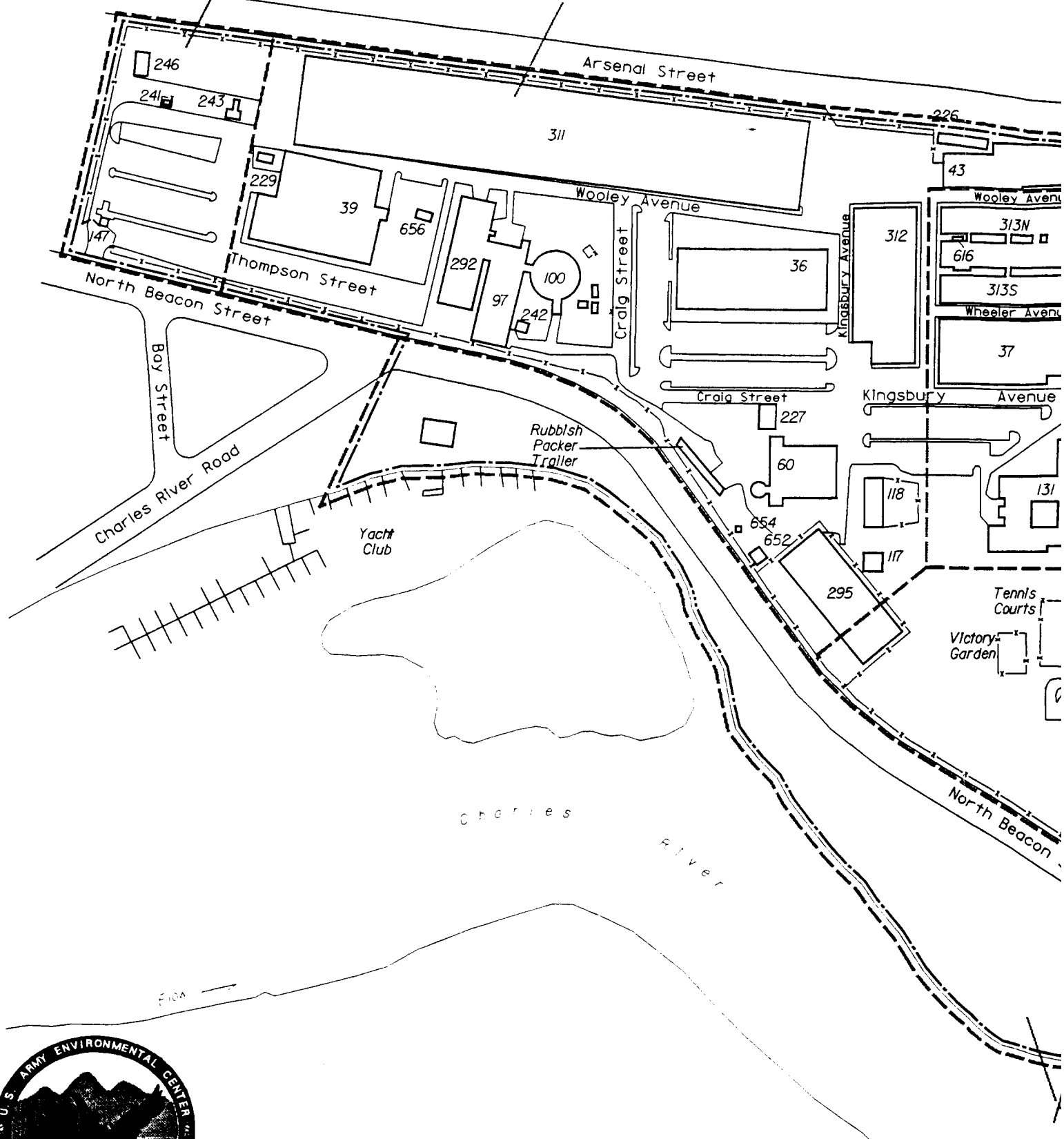
continued-

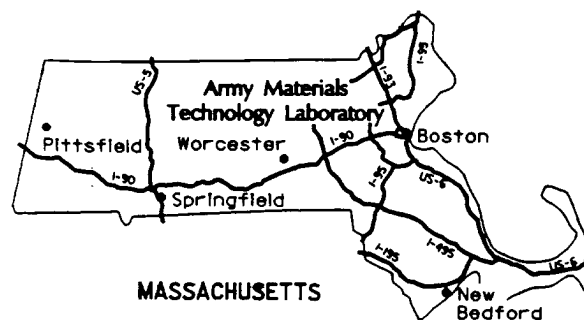
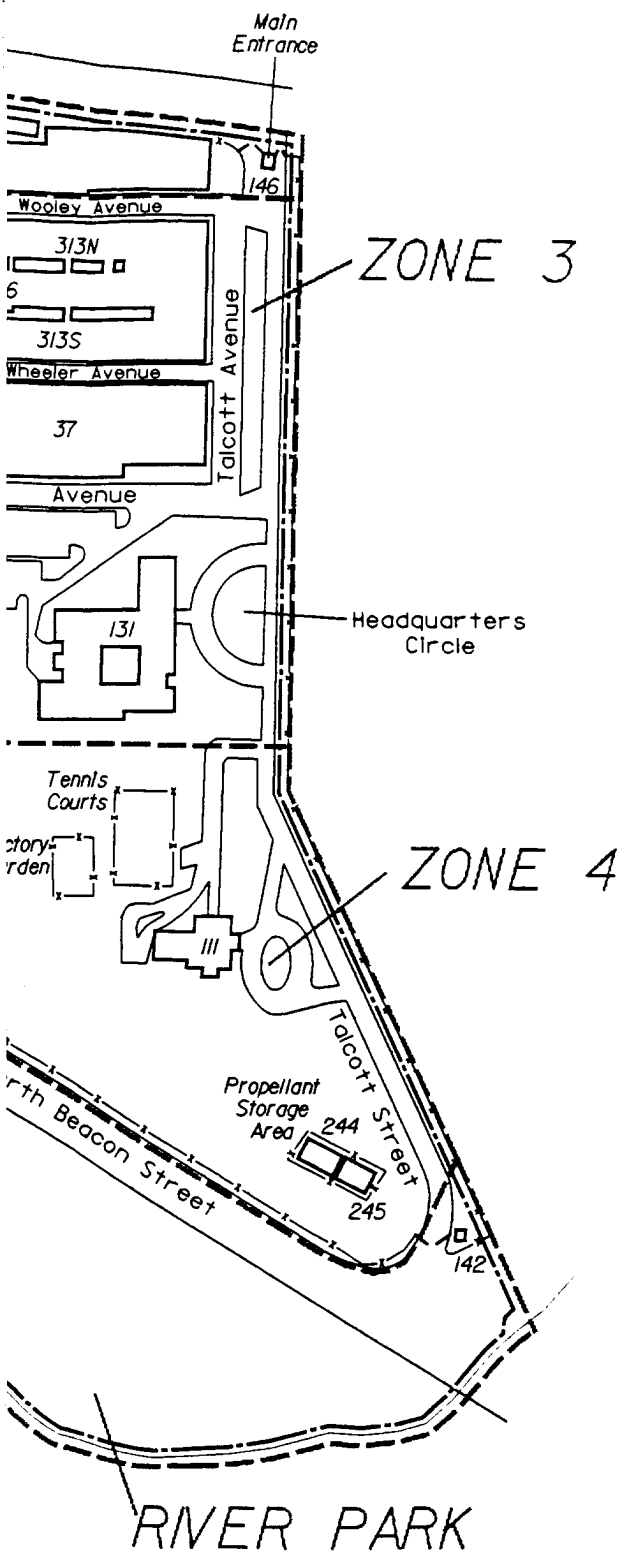
Table 5-3 - continued

| <u>Exposed Population</u> | <u>Exposure Point</u> | <u>Exposure Medium</u> | <u>Exposure Route</u> | <u>Chronic Hazard Index</u> |
|---------------------------|-----------------------|------------------------|-----------------------|-----------------------------|
| Future Comm. Worker | Bldg. 37 | Interior Residue | Oral | 6E-03 |
| | Bldg. 37 | Interior Residue | Dermal | 3E-02 |
| | Bldg. 37 | Indoor Air | Inhalation | <u>2E-02</u> |
| | | | Total: | 6E-02 |
| Future Resident | Bldg. 313 | Interior Residue | Oral | 3E-01 |
| | Bldg. 313 | Interior Residue | Dermal | 8E-02 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>3E-02</u> |
| | | | Total: | 4E-01 |
| Future Comm. Worker | Bldg. 313 | Interior Residue | Oral | 6E-03 |
| | Bldg. 313 | Interior Residue | Dermal | 3E-02 |
| | Bldg. 313 | Indoor Air | Inhalation | <u>4E-03</u> |
| | | | Total: | 4E-02 |

ZONE 1

ZONE 2



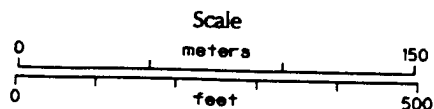
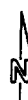


MASSACHUSETTS

Army Materials Technology Laboratory Watertown, MA

Figure 3-1
Preferred Reuse Zones

| | |
|-----------------------|-----------------------|
| ZONE 1 | Commercial |
| ZONE 2 | Commercial |
| ZONE 3 | Residential |
| ZONE 4/ RIVER PARK | Open Space/Public Use |
| --- | Zone Boundary |



6-OCT-1995



APPENDIX A
DETAILED EXPOSURE AND RISK CALCULATIONS

USER'S GUIDE

The following pages provide detailed documentation of the exposure and risk calculations performed at this site. This information will be helpful for those who wish to review these calculations in detail.

Data Input

Exposure and risk calculations are performed by providing data to the computer in three parts or worksheets. The first worksheet is named "POPSUM." This is where exposure scenarios to be evaluated are listed, grouped by population (populations are described in Section 3 of this report). This is also where all HIF terms developed in Section 3 are entered. Since not all of the populations to be evaluated fit into one POPSUM worksheet, two POPSUMs are created. Buildings in Zone 2 are included in the first; buildings in Zone 3 are included in the second.

The second worksheet is named "CTV." This worksheet contains the names of all chemicals of concern and all available values for the following parameters:

- RfD_s =subchronic reference dose (route-specific, mg/kg-day)
- RfD_c =chronic reference dose (route-specific, mg/kg-day)
- SF =slope factor (route-specific, (mg/kg-day)⁻¹)
- AF_o =oral absorption fraction (unitless)
- ABS =absorption fraction from soil (unitless)
- P =dermal permeability (K_p) constant for water (cm/hr)

The third worksheet is a series of exposure point concentration (EPC) tables that record the concentrations of the chemicals of concern at each location. Since concentrations may change over time, three columns exist for each medium: subchronic (C_s), chronic (C_c) and lifetime (C_l) average values. If a chemical's concentration is assumed to remain constant over time, all of these values will be equal. These tables repeat the values already documented in Section 3, so the EPC worksheets are not repeated here.

Exposure and Risk Calculations

Exposure and risk calculations for exposure scenarios and populations listed in "POPSUM" are performed in a series of worksheets (called "WS1," "WS2," etc.), grouped by population (POP1, POP2, etc., where POP1 = population 1 on the POPSUM worksheet). Each exposure and risk calculation worksheet is specific for a given population, exposure point, exposure medium and exposure route. All these terms are listed at the top of the page, along with the appropriate HIF values (copied from the POPSUM worksheet). Exposure and risk calculations are then presented in the body of the worksheet, grouped into three separate

sections: subchronic, chronic and lifetime. Within each section, the first data column is for the exposure point concentration, copied from the appropriate EPC table. The next column is for the HIF values:

- HIF_s = subchronic human intake factor
- HIF_c = chronic human intake factor
- HIF_l = lifetime (carcinogenic) human intake factor

Since the HIF value does not depend on chemical, the same value appears in all rows of the column. The next column is used for the chemical-specific ABS or P terms needed in any dermal exposure scenarios. Since these terms are not needed except in dermal scenarios, a value of 1 appears in this column for all oral or inhalation scenarios. The next column is the dose (intake), calculated by multiplying the exposure point concentration by the HIF. The next column is the appropriate chemical-, route- and duration-specific CTV term (RfD_s , RfD_c and SF for subchronic, chronic and lifetime exposures, respectively). These are copied from the CTV worksheet mentioned above. The last column in each block is the risk estimate. For subchronic and chronic exposures, this is given by the dose (DI) divided by the RfD , and is termed the Hazard Quotient (HQ). For lifetime exposures, the value is the excess cancer risk, calculated from the equation

$$RISK = 1 - e^{-(DI_l \cdot SF)}$$

Summary Sheets

After all exposure scenarios that apply to a given population are evaluated, summary tables are prepared that tabulate the pathway-specific subchronic, chronic and lifetime dose and risk estimates for the population. These are copied from the preceding exposure and risk calculation worksheets. The intakes or doses are shown in the block on the left, and the risks or hazard quotients are shown in the block on the right. In each block, each column represents one exposure scenario (pathway). This is identified by the labels heading the column. Finally, risks are summed across chemicals and across pathways. These sums are shown just below the individual columns of risk estimates.

Arrangement of This Appendix

PAGE

| | |
|---|-----|
| Summary of Critical Toxicity Values | A-6 |
|---|-----|

Part A: Chemical Risk - Residential and Commercial - Zone 2

| | |
|--|------|
| Exposure Scenarios Evaluated | A-7 |
| Exposure Point Concentrations - Building 39 | A-9 |
| Exposure Point Concentrations - Building 311 | A-10 |
| Exposure Point Concentrations - Building 312 | A-11 |

Building 39

| | |
|--|------|
| Subchronic Exposure Summary - Future Resident | A-12 |
| Chronic Exposure Summary - Future Resident | A-14 |
| Lifetime Exposure Summary - Future Resident | A-16 |
| Chronic Exposure Summary - Future Commercial Worker | A-18 |
| Lifetime Exposure Summary - Future Commercial Worker | A-20 |
| Subchronic Exposure Summary - Future Renovation Worker | A-22 |
| Lifetime Exposure Summary - Future Renovation Worker | A-24 |

Building 311

| | |
|--|------|
| Subchronic Exposure Summary - Future Resident | A-26 |
| Chronic Exposure Summary - Future Resident | A-28 |
| Lifetime Exposure Summary - Future Resident | A-30 |
| Chronic Exposure Summary - Future Commercial Worker | A-32 |
| Lifetime Exposure Summary - Future Commercial Worker | A-34 |
| Subchronic Exposure Summary - Future Renovation Worker | A-36 |
| Lifetime Exposure Summary - Future Renovation Worker | A-38 |

Building 312

| | |
|---|------|
| Subchronic Exposure Summary - Future Resident | A-40 |
| Chronic Exposure Summary - Future Resident | A-42 |
| Lifetime Exposure Summary - Future Resident | A-44 |

PAGE

| | |
|--|------|
| Chronic Exposure Summary - Future Commercial Worker | A-46 |
| Lifetime Exposure Summary - Future Commercial Worker | A-48 |
| Subchronic Exposure Summary - Future Renovation Worker | A-50 |
| Lifetime Exposure Summary - Future Renovation Worker | A-52 |

Part B: Chemical Risk - Residential and Commercial - Zone 3

| | |
|--|------|
| Exposure Scenarios Evaluated | A-54 |
| Exposure Point Concentrations - Building 37 | A-56 |
| Exposure Point Concentrations - Building 313 | A-57 |

Building 37

| | |
|--|------|
| Subchronic Exposure Summary - Future Resident | A-58 |
| Chronic Exposure Summary - Future Resident | A-60 |
| Lifetime Exposure Summary - Future Resident | A-62 |
| Chronic Exposure Summary - Future Commercial Worker | A-64 |
| Lifetime Exposure Summary - Future Commercial Worker | A-66 |
| Subchronic Exposure Summary - Future Renovation Worker | A-68 |
| Lifetime Exposure Summary - Future Renovation Worker | A-70 |

Building 313

| | |
|--|------|
| Subchronic Exposure Summary - Future Resident | A-72 |
| Chronic Exposure Summary - Future Resident | A-74 |
| Lifetime Exposure Summary - Future Resident | A-76 |
| Chronic Exposure Summary - Future Commercial Worker | A-78 |
| Lifetime Exposure Summary - Future Commercial Worker | A-80 |
| Subchronic Exposure Summary - Future Renovation Worker | A-82 |
| Lifetime Exposure Summary - Future Renovation Worker | A-84 |

RANGE NAME: CTV

LIST OF CHEMICALS OF CONCERN
WITH CTVs AND OTHER CHEMICAL-SPECIFIC DATA

SITE NAME: AHTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| NO. | CHEMICAL NAME | ORAL | | | | INHALATION | | | | DERMAL (a) | | | |
|-----|----------------|---------|---------|---------|---------|------------|---------|---------|----|------------|---------|---------|----------|
| | | RTDs | RYDs | SF | AFs | RTDs | RYDs | SF | MA | RTDs | RYDs | SF | MA |
| 1 | Antimony | 4.0E-04 | 4.0E-04 | NA | 1.0E-01 | NA | NA | NA | NA | 4.0E-05 | 4.0E-05 | 1.0E-03 | 1.0E-03 |
| 2 | Arsenic | 3.0E-04 | 3.0E-04 | 1.0E+00 | 9.0E-01 | NA | NA | 1.5E+01 | NA | 2.9E-04 | 2.9E-04 | 1.0E+00 | 1.0E-03 |
| 3 | Barium | 7.0E-02 | 7.0E-02 | NA | 1.0E-01 | 1.4E-03 | 1.4E-04 | NA | NA | 7.0E-03 | 7.0E-03 | NA | 1.0E-03 |
| 4 | Beryllium | 5.0E-03 | 5.0E-03 | 4.3E+00 | 5.0E-03 | NA | NA | 8.4E+00 | NA | 2.5E-05 | 2.5E-05 | 6.6E+02 | 1.0E-03 |
| 5 | Cadmium (food) | NA | 1.0E-03 | NA | 2.5E-02 | 1.1E-06 | NA | 6.1E+00 | NA | NA | 2.5E-05 | NA | 1.0E-02 |
| 6 | Chromium (VI) | 2.0E-02 | 5.0E-03 | NA | 8.0E-02 | NA | NA | 4.2E+01 | NA | 1.0E-03 | 1.0E-03 | NA | 1.0E-03 |
| 7 | Lead and Compd | NA | NA | NA | 2.0E-01 | NA | NA | NA | NA | NA | NA | NA | 1.0E-03 |
| 8 | Mercury, inorg | 3.0E-04 | 3.0E-04 | NA | 2.0E-02 | NA | NA | NA | NA | 6.0E-06 | 6.0E-06 | NA | 1.0E-03 |
| 9 | Nickel | 2.0E-02 | 2.0E-02 | NA | 5.0E-02 | NA | NA | 8.4E-01 | NA | 2.5E-04 | 2.5E-04 | NA | 1.0E-03 |
| 10 | Silver | 5.0E-03 | 5.0E-03 | NA | 1.0E-02 | NA | NA | NA | NA | 7.0E-05 | 7.0E-05 | NA | 1.0E-03 |
| 11 | Vanadium | 7.0E-03 | 7.0E-03 | NA | 1.0E-02 | NA | NA | NA | NA | 2.0E-02 | 2.0E-02 | NA | 1.0E-03 |
| 12 | Cyanide (free) | 2.0E-02 | 2.0E-02 | NA | 1.0E+00 | 2.9E-04 | 2.0E-03 | NA | NA | 1.0E-01 | 1.0E-01 | NA | 1.0E-03 |
| 13 | Nitrate, nitra | 1.0E-01 | 1.0E-01 | NA | 1.0E+00 | NA | NA | NA | NA | NA | NA | NA | 1.0E-03 |
| 14 | Acenaphthene | 6.0E-01 | 6.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.0E-03 |
| 15 | Acenaphthylene | 4.0E-02 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.5E-01 |
| 16 | Anthracene | 3.0E+00 | 3.0E-01 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.6E-01 |
| 17 | Benzo (a) anth | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 2.2E-01 |
| 18 | Benzo (a) pyre | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 8.10E-01 |
| 19 | Benzo (b) fluo | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 1.20E+00 |
| 20 | Benzo (b,h,i) | 4.0E-02 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 1.20E+00 |
| 21 | Benzo (k) fluo | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 1.11E+00 |
| 22 | Chrysene | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 8.10E-01 |
| 23 | Dibenz (a,h) a | 4.0E-02 | 4.0E-02 | 7.3E+00 | NA | NA | NA | NA | NA | NA | NA | NA | 2.70E+00 |
| 24 | Fluoranthene | 4.0E-01 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.60E-01 |
| 25 | Fluorene | 4.0E-01 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.58E-01 |
| 26 | Methylnaphthal | 4.0E-02 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.15E-01 |
| 27 | Naphthalene | 4.0E-02 | 4.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 6.90E-02 |
| 28 | Phenanthrene | 3.0E-01 | 3.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 2.30E-01 |
| 29 | Pyrene | 3.0E-01 | 3.0E-02 | NA | NA | NA | NA | NA | NA | NA | NA | NA | 3.26E-01 |
| 30 | Bis (2-ethylhe | 2.0E-02 | 2.0E-02 | 1.4E-02 | 1.0E+00 | NA | NA | NA | NA | 2.0E-02 | 2.0E-02 | 1.4E-02 | NA |
| 31 | Butylbenzyl ph | 2.0E+00 | 2.0E-01 | NA | 1.0E+00 | NA | NA | NA | NA | 2.0E+00 | 2.0E-01 | NA | 2.37E-05 |
| 32 | Di-n-butyl pht | 1.0E+00 | 1.0E-01 | NA | 0.5E-01 | NA | NA | NA | NA | 8.5E-01 | 8.5E-02 | NA | 3.30E-02 |
| 33 | Di-n-octyl pht | 2.0E-02 | 2.0E-02 | NA | 1.0E+00 | NA | NA | NA | NA | 2.0E-02 | 2.0E-02 | NA | 2.67E+01 |
| 34 | Aldrin | 3.0E-05 | 3.0E-05 | 1.7E+01 | 1.0E+00 | NA | NA | 1.7E+01 | NA | 3.0E-05 | 3.0E-05 | 1.7E+01 | 1.0E-02 |
| 35 | Alpha-Endosulf | 2.0E-04 | 5.0E-05 | NA | 1.0E+00 | NA | NA | NA | NA | 2.0E-04 | 5.0E-05 | NA | 1.0E-02 |
| 36 | Beta-Endosulf | 2.0E-04 | 5.0E-05 | NA | 1.0E+00 | NA | NA | NA | NA | 2.0E-04 | 5.0E-05 | NA | 1.0E-02 |
| 37 | DDO, 4,4'- | NA | NA | 2.4E-01 | 1.0E+00 | NA | NA | NA | NA | 2.4E-01 | 2.4E-01 | NA | 2.80E-01 |
| 38 | DDT, 4,4'- | NA | NA | 3.4E-01 | 1.0E+00 | NA | NA | NA | NA | 3.4E-01 | 3.4E-01 | NA | 2.40E-01 |
| 39 | DDT, 4,4'- | 5.0E-04 | 5.0E-04 | 3.4E-01 | 1.0E+00 | NA | NA | NA | NA | 5.0E-04 | 5.0E-04 | NA | 4.30E-01 |
| 40 | Dieldrin | 5.0E-05 | 5.0E-05 | 1.6E+01 | 1.0E+00 | NA | NA | 1.6E+01 | NA | 5.0E-05 | 5.0E-05 | 1.6E+01 | 1.0E-02 |
| 41 | Endrin | 3.0E-04 | 3.0E-04 | NA | 1.0E+00 | NA | NA | NA | NA | 3.0E-04 | 3.0E-04 | NA | 1.0E-02 |
| 42 | Gamma-BHC (Lin | 3.0E-04 | 3.0E-04 | 1.3E+00 | 1.0E+00 | NA | NA | NA | NA | 3.0E-04 | 3.0E-04 | 1.3E+00 | 1.0E-02 |
| 43 | Heptachlor | 5.0E-04 | 5.0E-04 | 4.5E+00 | 1.0E+00 | NA | NA | 4.5E+00 | NA | 5.0E-04 | 5.0E-04 | 4.5E+00 | 1.0E-02 |
| 44 | Heptachlor epo | 1.3E-05 | 1.3E-05 | 9.1E+00 | 1.0E+00 | NA | NA | 9.1E+00 | NA | 1.3E-05 | 1.3E-05 | 9.1E+00 | 1.0E-02 |
| 45 | Methoxychlor | 5.0E-03 | 5.0E-03 | NA | 1.0E+00 | NA | NA | NA | NA | 5.0E-03 | 5.0E-03 | NA | 1.87E-02 |
| 46 | PCB 1254 | 7.0E-05 | 7.0E-05 | 7.7E+00 | 9.5E-01 | NA | NA | NA | NA | 6.7E-05 | 6.7E-05 | 8.1E+00 | 6.0E-02 |
| 47 | PCB 1260 | 7.0E-05 | 7.0E-05 | 7.7E+00 | 9.5E-01 | NA | NA | NA | NA | 6.7E-05 | 6.7E-05 | 8.1E+00 | 6.0E-02 |
| 48 | Dinitrotoluene | 3.0E-03 | 3.0E-03 | 6.0E-01 | 1.0E+00 | NA | NA | NA | NA | 3.0E-03 | 3.0E-03 | 6.0E-01 | 1.0E-02 |
| 49 | MX | 3.0E-03 | 3.0E-03 | 1.1E-01 | 1.0E+00 | NA | NA | NA | NA | 3.0E-03 | 3.0E-03 | 1.1E-01 | 1.0E-02 |

RANGE NAME: POPSUM

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| POPULATION 1 | | EXPOSED POPULATION | | NO. OF SCENARIOS = | | EXPOSURE | | HUMAN INTAKE FACTORS | | WORKSHEET | |
|--------------|--|--------------------|--|--------------------|--|----------------|------------|----------------------|----------|-----------|------|
| LAND USE | | POPULATION | | POINT | | MEDIUM | ROUTE | HIFs | HIFC | HIF1 | NAME |
| 1 FUTURE | | RESIDENT 39 | | BLDG 39 | | INTERIOR RESID | ORAL | 9.13E-05 | 5.71E-05 | 9.72E-06 | WS1 |
| 2 | | | | BLDG 39 | | INTERIOR RESID | DERMAL | 2.67E-04 | 2.32E-04 | 9.19E-05 | WS2 |
| 3 | | | | BLDG 39 | | INDOOR AIR | INHALATION | 2.74E-01 | 1.71E-01 | 2.91E-02 | WS3 |
| 4 | | | | | | | | | | | WS4 |
| 5 | | | | | | | | | | | WS5 |
| 6 | | | | | | | | | | | WS6 |
| POPULATION 2 | | EXPOSED POPULATION | | NO. OF SCENARIOS = | | EXPOSURE | | HUMAN INTAKE FACTORS | | RANGE | |
| LAND USE | | POPULATION | | POINT | | MEDIUM | ROUTE | HIFs | HIFC | HIF1 | NAME |
| 1 FUTURE | | COMM. WORKER 39 | | BLDG 39 | | INTERIOR RESID | ORAL | 9.78E-07 | 3.49E-07 | | WS1 |
| 2 | | | | BLDG 39 | | INTERIOR RESID | DERMAL | 9.26E-05 | 3.31E-05 | | WS2 |
| 3 | | | | BLDG 39 | | INDOOR AIR | INHALATION | 1.88E-02 | 6.71E-03 | | WS3 |
| 4 | | | | | | | | | | | WS4 |
| 5 | | | | | | | | | | | WS5 |
| 6 | | | | | | | | | | | WS6 |
| POPULATION 3 | | EXPOSED POPULATION | | NO. OF SCENARIOS = | | EXPOSURE | | HUMAN INTAKE FACTORS | | RANGE | |
| LAND USE | | POPULATION | | POINT | | MEDIUM | ROUTE | HIFs | HIFC | HIF1 | NAME |
| 1 FUTURE | | RENOV. WORKER 39 | | BLDG 39 | | INTERIOR RESID | ORAL | 9.78E-07 | 1.40E-08 | | WS1 |
| 2 | | | | BLDG 39 | | INDOOR AIR REM | INHALATION | 3.91E-02 | 5.59E-04 | | WS2 |
| 3 | | | | | | | | | | | WS3 |
| 4 | | | | | | | | | | | WS4 |
| 5 | | | | | | | | | | | WS5 |
| 6 | | | | | | | | | | | WS6 |
| POPULATION 4 | | EXPOSED POPULATION | | NO. OF SCENARIOS = | | EXPOSURE | | HUMAN INTAKE FACTORS | | RANGE | |
| LAND USE | | POPULATION | | POINT | | MEDIUM | ROUTE | HIFs | HIFC | HIF1 | NAME |
| 1 FUTURE | | RESIDENT 311 | | BLDG 311 | | INTERIOR RESID | ORAL | 9.13E-05 | 5.71E-05 | 9.72E-06 | WS1 |
| 2 | | | | BLDG 311 | | INTERIOR RESID | DERMAL | 2.67E-04 | 2.32E-04 | 9.19E-05 | WS2 |
| 3 | | | | BLDG 311 | | INDOOR AIR | INHALATION | 2.74E-01 | 1.71E-01 | 2.91E-02 | WS3 |
| 4 | | | | | | | | | | | WS4 |
| 5 | | | | | | | | | | | WS5 |
| 6 | | | | | | | | | | | WS6 |
| POPULATION 5 | | EXPOSED POPULATION | | NO. OF SCENARIOS = | | EXPOSURE | | HUMAN INTAKE FACTORS | | RANGE | |
| LAND USE | | POPULATION | | POINT | | MEDIUM | ROUTE | HIFs | HIFC | HIF1 | NAME |
| 1 FUTURE | | COMM. WORKER 311 | | BLDG 311 | | INTERIOR RESID | ORAL | 9.78E-07 | 3.49E-07 | | WS1 |
| 2 | | | | BLDG 311 | | INTERIOR RESID | DERMAL | 9.26E-05 | 3.31E-05 | | WS2 |
| 3 | | | | BLDG 311 | | INDOOR AIR | INHALATION | 1.88E-02 | 6.71E-03 | | WS3 |
| 4 | | | | | | | | | | | WS4 |
| 5 | | | | | | | | | | | WS5 |
| 6 | | | | | | | | | | | WS6 |

| POPULATION 6 | | EXPOSED | | NO. OF SCENARIOS - 2 | | HUMAN INTAKE FACTORS | | RANGE | |
|--------------|--------|------------|-------------------|----------------------|-----------------|----------------------|----------|----------|------|
| LAND | USE | POPULATION | REMOV. WORKER 311 | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIF# | HIF1 | NAME |
| 1 | FUTURE | | | BLDG 311 | INTERIOR RESID | ORAL | 9.78E-07 | 1.40E-08 | WS1 |
| 2 | | | | BLDG 311 | INDOOR AIR REN | INHALATION | 3.91E-02 | 5.59E-04 | WS2 |
| 3 | | | | | | | | | WS3 |
| 4 | | | | | | | | | WS4 |
| 5 | | | | | | | | | WS5 |
| 6 | | | | | | | | | WS6 |

| POPULATION 7 | | EXPOSED | | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | RANGE | |
|--------------|--------|------------|--------------|----------------------|-----------------|----------------------|----------|----------|--------------|
| LAND | USE | POPULATION | RESIDENT 312 | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIF# | HIF1 | NAME |
| 1 | FUTURE | | | BLDG 312 | INTERIOR RESID | ORAL | 9.13E-05 | 9.71E-05 | 9.72E-06 WS1 |
| 2 | | | | BLDG 312 | INTERIOR RESID | DERMAL | 2.67E-04 | 2.32E-04 | 9.19E-05 WS2 |
| 3 | | | | BLDG 312 | INDOOR AIR | INHALATION | 2.74E-01 | 1.71E-01 | 2.91E-02 WS3 |
| 4 | | | | | | | | | WS4 |
| 5 | | | | | | | | | WS5 |
| 6 | | | | | | | | | WS6 |

| POPULATION 8 | | EXPOSED | | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | RANGE | |
|--------------|--------|------------|------------------|----------------------|-----------------|----------------------|----------|----------|------|
| LAND | USE | POPULATION | COMM. WORKER 312 | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIF# | HIF1 | NAME |
| 1 | FUTURE | | | BLDG 312 | INTERIOR RESID | ORAL | 9.78E-07 | 3.49E-07 | WS1 |
| 2 | | | | BLDG 312 | INTERIOR RESID | DERMAL | 9.26E-05 | 3.31E-05 | WS2 |
| 3 | | | | BLDG 312 | INDOOR AIR | INHALATION | 1.08E-02 | 6.71E-03 | WS3 |
| 4 | | | | | | | | | WS4 |
| 5 | | | | | | | | | WS5 |
| 6 | | | | | | | | | WS6 |

| POPULATION 9 | | EXPOSED | | NO. OF SCENARIOS - 2 | | HUMAN INTAKE FACTORS | | RANGE | |
|--------------|--------|------------|-------------------|----------------------|-----------------|----------------------|----------|----------|------|
| LAND | USE | POPULATION | REMOV. WORKER 312 | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIF# | HIF1 | NAME |
| 1 | FUTURE | | | BLDG 312 | INTERIOR RESID | ORAL | 9.78E-07 | 1.40E-08 | WS1 |
| 2 | | | | BLDG 312 | INDOOR AIR REN | INHALATION | 3.91E-02 | 5.59E-04 | WS2 |
| 3 | | | | | | | | | WS3 |
| 4 | | | | | | | | | WS4 |
| 5 | | | | | | | | | WS5 |
| 6 | | | | | | | | | WS6 |

RANGE NAME: EPC1

EXPOSURE POINT: BLDG 39

EXPOSURE POINT CONCENTRATIONS

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| CHEMICAL NAME | MEDIUM 1 INTERIOR RESIDUE | | | MEDIUM 2 INDOOR AIR | | | MEDIUM 3 INDOOR AIR RES | | | MEDIUM 4 | | | 0 | | |
|-------------------|---------------------------|---------|---------|---------------------|---------|---------|-------------------------|---------|---------|----------|---------|---------|---------|---------|---------|
| | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl |
| 1 Antimony | 2.8E-01 | 2.8E-01 | 1.1E-01 | 2.8E-06 | 2.8E-06 | 2.8E-06 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 |
| 2 Arsenic | 3.0E-01 | 3.0E-01 | 3.0E-01 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 |
| 3 Barium | 5.0E+00 | 5.0E+00 | 5.0E+00 | 5.0E-05 | 5.0E-05 | 5.0E-05 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 | 5.0E-04 |
| 4 Beryllium | 8.8E-04 | 8.8E-04 | 8.8E-04 | 8.8E-09 | 8.8E-09 | 8.8E-09 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 | 8.8E-08 |
| 5 Cadmium (food) | 1.3E+00 | 1.3E+00 | 1.3E+00 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 |
| 6 Chromium (VI) | 7.5E+00 | 7.5E+00 | 7.5E+00 | 7.5E-05 | 7.5E-05 | 7.5E-05 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 | 7.5E-04 |
| 7 Lead and Comp | 1.1E+01 | 1.1E+01 | 1.1E+01 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 |
| 8 Mercury, Inorg | 1.3E-01 | 1.3E-01 | 1.3E-01 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-05 |
| 9 Nickel | 7.0E+00 | 7.0E+00 | 7.0E+00 | 7.0E-05 | 7.0E-05 | 7.0E-05 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 | 7.0E-04 |
| 10 Silver | 2.0E-01 | 2.0E-01 | 2.0E-01 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 |
| 11 Vanadium | 3.0E-01 | 3.0E-01 | 3.0E-01 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 |
| 12 Cyanide (free) | 2.1E-01 | 2.1E-01 | 2.1E-01 | 2.1E-06 | 2.1E-06 | 2.1E-06 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 |
| 13 Manganese | 1.5E+00 | 1.5E+00 | 1.5E+00 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 |
| 14 Acenaphthene | 2.0E-04 | 2.0E-04 | 2.0E-04 | 2.0E-09 | 2.0E-09 | 2.0E-09 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 |
| 15 Acenaphthylene | 1.0E-03 | 1.0E-03 | 1.0E-03 | 1.0E-08 | 1.0E-08 | 1.0E-08 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 17 Benzo (a) anth | 2.4E-02 | 2.4E-02 | 2.4E-02 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 | 2.4E-06 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 20 Benzo (b,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 21 Benzo (k) fluo | 7.6E-04 | 7.6E-04 | 7.6E-04 | 7.6E-09 | 7.6E-09 | 7.6E-09 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 |
| 22 Chrysene | 9.9E-03 | 9.9E-03 | 9.9E-03 | 9.9E-08 | 9.9E-08 | 9.9E-08 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 | 9.9E-07 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 24 Fluoranthene | 1.6E-02 | 1.6E-02 | 1.6E-02 | 1.6E-07 | 1.6E-07 | 1.6E-07 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 | 1.6E-06 |
| 25 Fluorene | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 |
| 26 Methylanthral | 1.0E-03 | 1.0E-03 | 1.0E-03 | 1.0E-08 | 1.0E-08 | 1.0E-08 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 |
| 27 Naphthalene | 4.4E-03 | 4.4E-03 | 4.4E-03 | 4.4E-08 | 4.4E-08 | 4.4E-08 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 | 4.4E-07 |
| 28 Phenanthrene | 3.0E-02 | 3.0E-02 | 3.0E-02 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 |
| 29 Pyrene | 2.0E-02 | 2.0E-02 | 2.0E-02 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 |
| 30 Bis (2-ethylhe | 2.1E+00 | 2.1E+00 | 2.1E+00 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 |
| 31 Butylbenzyl ph | 1.7E+00 | 1.7E+00 | 1.7E+00 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 |
| 32 Di-n-butyl pht | 1.3E+00 | 1.3E+00 | 1.3E+00 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 |
| 33 Di-n-octyl pht | 1.1E-01 | 1.1E-01 | 1.1E-01 | 1.1E-06 | 1.1E-06 | 1.1E-06 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 |
| 34 Aldrin | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-08 | 1.9E-08 | 1.9E-08 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 |
| 35 Alpha-Endosulr | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-09 | 1.1E-09 | 1.1E-09 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-08 |
| 36 Beta-Endosulfa | 6.5E-05 | 6.5E-05 | 6.5E-05 | 6.5E-10 | 6.5E-10 | 6.5E-10 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 | 6.5E-09 |
| 37 DDT, 4,4'- | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-09 | 3.7E-09 | 3.7E-09 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-08 |
| 38 DDE, 4,4'- | 6.1E-04 | 6.1E-04 | 6.1E-04 | 6.1E-09 | 6.1E-09 | 6.1E-09 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-08 |
| 39 DDT, 4,4'- | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-07 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 41 Endrin | 9.1E-04 | 9.1E-04 | 9.1E-04 | 9.1E-09 | 9.1E-09 | 9.1E-09 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 | 9.1E-08 |
| 42 Gamma-BHC (Lin | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-09 | 1.5E-09 | 1.5E-09 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 46 PCB 1284 | 4.7E-01 | 4.7E-01 | 4.7E-01 | 4.7E-06 | 4.7E-06 | 4.7E-06 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 |
| 47 PCB 1260 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 48 Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 | 0.0E-00 |
| 49 RDX | 4.5E-02 | 4.5E-02 | 4.5E-02 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 | 4.5E-06 |

RANGE NAME: EPC2

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: BLDG 311

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: DATA
LAST UPDATE: 10/03/94

| CHEMICAL NAME | MEDIUM 1 INTERIOR RESIDUE | | | MEDIUM 2 INDOOR AIR | | | MEDIUM 3 INDOOR AIR REM | | | MEDIUM 4 | | | MEDIUM 5 | | |
|-------------------|---------------------------|---------|---------|---------------------|---------|---------|-------------------------|---------|---------|----------|---------|---------|----------|---------|---------|
| | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl |
| 1 Antimony | 2.4E-01 | 2.4E-01 | 2.4E-01 | 2.2E-06 | 2.4E-06 | 2.4E-06 | 2.2E-06 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 |
| 2 Arsenic | 4.1E-02 | 4.1E-02 | 4.1E-02 | 4.1E-07 | 4.1E-07 | 4.1E-07 | 4.1E-07 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-06 |
| 3 Barium | 5.6E+00 | 5.6E+00 | 5.6E+00 | 5.6E-05 | 5.6E-05 | 5.6E-05 | 5.6E-05 | 5.6E-04 | 5.6E-04 | 5.6E-04 | 5.6E-04 | 5.6E-04 | 5.6E-04 | 5.6E-04 | 5.6E-04 |
| 4 Beryllium | 4.5E-03 | 4.5E-03 | 4.5E-03 | 4.5E-08 | 4.5E-08 | 4.5E-08 | 4.5E-08 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-07 | 4.5E-07 |
| 5 Cadmium (food) | 7.7E-01 | 7.7E-01 | 7.7E-01 | 7.7E-06 | 7.7E-06 | 7.7E-06 | 7.7E-06 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 |
| 6 Chromium (VI) | 4.1E+00 | 4.1E+00 | 4.1E+00 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 | 4.1E-04 |
| 7 Lead and Comp | 1.7E+01 | 1.7E+01 | 1.7E+01 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 |
| 8 Mercury, Inorg | 2.0E-02 | 2.0E-02 | 2.0E-02 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 |
| 9 Nickel | 3.4E+00 | 3.4E+00 | 3.4E+00 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-04 | 3.4E-04 | 3.4E-04 | 3.4E-04 | 3.4E-04 | 3.4E-04 | 3.4E-04 | 3.4E-04 |
| 10 Silver | 4.0E-02 | 4.0E-02 | 4.0E-02 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-06 | 4.0E-06 | 4.0E-06 | 4.0E-06 | 4.0E-06 | 4.0E-06 | 4.0E-06 | 4.0E-06 |
| 11 Vanadium | 1.1E+00 | 1.1E+00 | 1.1E+00 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 |
| 12 Cyanide (free) | 3.0E-02 | 3.0E-02 | 3.0E-02 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-06 |
| 13 Nitrate, nitra | 1.7E+01 | 1.7E+01 | 1.7E+01 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-03 |
| 14 Acenaphthene | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 |
| 15 Acenaphthylene | 2.0E-03 | 2.0E-03 | 2.0E-03 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-08 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 | 2.0E-07 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.7E-02 | 2.7E-02 | 2.7E-02 | 2.7E-07 | 2.7E-07 | 2.7E-07 | 2.7E-07 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 1.3E-02 | 1.3E-02 | 1.3E-02 | 1.3E-07 | 1.3E-07 | 1.3E-07 | 1.3E-07 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-06 | 1.3E-06 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 2.0E-01 | 2.0E-01 | 2.0E-01 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 |
| 25 Fluorene | 3.9E-03 | 3.9E-03 | 3.9E-03 | 3.9E-08 | 3.9E-08 | 3.9E-08 | 3.9E-08 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 |
| 26 Methylanthral | 3.5E-04 | 3.5E-04 | 3.5E-04 | 3.5E-09 | 3.5E-09 | 3.5E-09 | 3.5E-09 | 3.5E-08 | 3.5E-08 | 3.5E-08 | 3.5E-08 | 3.5E-08 | 3.5E-08 | 3.5E-08 | 3.5E-08 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.5E-01 | 1.5E-01 | 1.5E-01 | 1.5E-06 | 1.5E-06 | 1.5E-06 | 1.5E-06 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-05 | 1.5E-05 |
| 29 Pyrene | 5.9E-02 | 5.9E-02 | 5.9E-02 | 5.9E-07 | 5.9E-07 | 5.9E-07 | 5.9E-07 | 5.9E-06 | 5.9E-06 | 5.9E-06 | 5.9E-06 | 5.9E-06 | 5.9E-06 | 5.9E-06 | 5.9E-06 |
| 30 Bis (2-ethylhe | 2.4E+00 | 2.4E+00 | 2.4E+00 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-04 |
| 31 Butylbenzyl ph | 1.1E+00 | 1.1E+00 | 1.1E+00 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 |
| 32 Di-n-butyl pht | 1.0E-01 | 1.0E-01 | 1.0E-01 | 1.0E-06 | 1.0E-06 | 1.0E-06 | 1.0E-06 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 |
| 33 Di-n-octyl pht | 3.4E-01 | 3.4E-01 | 3.4E-01 | 3.4E-06 | 3.4E-06 | 3.4E-06 | 3.4E-06 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 |
| 34 Aldrin | 3.2E-04 | 3.2E-04 | 3.2E-04 | 3.2E-09 | 3.2E-09 | 3.2E-09 | 3.2E-09 | 3.2E-08 | 3.2E-08 | 3.2E-08 | 3.2E-08 | 3.2E-08 | 3.2E-08 | 3.2E-08 | 3.2E-08 |
| 35 Alpha-Endosul | 1.5E-03 | 1.5E-03 | 1.5E-03 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-08 | 1.5E-07 | 1.5E-07 | 1.5E-07 | 1.5E-07 | 1.5E-07 | 1.5E-07 | 1.5E-07 | 1.5E-07 |
| 36 Beta-Endosulfa | 3.0E-03 | 3.0E-03 | 3.0E-03 | 3.0E-08 | 3.0E-08 | 3.0E-08 | 3.0E-08 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 | 3.0E-07 |
| 37 DDE, 4,4'- | 5.2E-03 | 5.2E-03 | 5.2E-03 | 5.2E-08 | 5.2E-08 | 5.2E-08 | 5.2E-08 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-07 |
| 38 DDE, 4,4'- | 6.7E-03 | 6.7E-03 | 6.7E-03 | 6.7E-08 | 6.7E-08 | 6.7E-08 | 6.7E-08 | 6.7E-07 | 6.7E-07 | 6.7E-07 | 6.7E-07 | 6.7E-07 | 6.7E-07 | 6.7E-07 | 6.7E-07 |
| 39 DDT, 4,4'- | 2.6E-02 | 2.6E-02 | 2.6E-02 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-06 |
| 40 Dieldrin | 5.7E-03 | 5.7E-03 | 5.7E-03 | 5.7E-08 | 5.7E-08 | 5.7E-08 | 5.7E-08 | 5.7E-07 | 5.7E-07 | 5.7E-07 | 5.7E-07 | 5.7E-07 | 5.7E-07 | 5.7E-07 | 5.7E-07 |
| 41 Endrin | 1.2E-02 | 1.2E-02 | 1.2E-02 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 |
| 42 Gamma-BHC (lin | 7.6E-03 | 7.6E-03 | 7.6E-03 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-07 | 7.6E-07 | 7.6E-07 | 7.6E-07 | 7.6E-07 | 7.6E-07 | 7.6E-07 | 7.6E-07 |
| 43 Heptachlor | 2.3E-03 | 2.3E-03 | 2.3E-03 | 2.3E-08 | 2.3E-08 | 2.3E-08 | 2.3E-08 | 2.3E-07 | 2.3E-07 | 2.3E-07 | 2.3E-07 | 2.3E-07 | 2.3E-07 | 2.3E-07 | 2.3E-07 |
| 44 Heptachlor epo | 1.0E-03 | 1.0E-03 | 1.0E-03 | 1.0E-08 | 1.0E-08 | 1.0E-08 | 1.0E-08 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 | 1.0E-07 |
| 45 Methoxychlor | 1.4E-02 | 1.4E-02 | 1.4E-02 | 1.4E-07 | 1.4E-07 | 1.4E-07 | 1.4E-07 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-06 |
| 46 PCB 1254 | 1.2E-03 | 1.2E-03 | 1.2E-03 | 1.2E-08 | 1.2E-08 | 1.2E-08 | 1.2E-08 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 |
| 47 PCB 1260 | 2.6E-03 | 2.6E-03 | 2.6E-03 | 2.6E-08 | 2.6E-08 | 2.6E-08 | 2.6E-08 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 | 2.6E-07 |
| 48 Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 49 RDX | 1.7E+00 | 1.7E+00 | 1.7E+00 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 | 1.7E-04 |

RANGE NAME: EPC3

EXPOSURE POINT: BLDG 312

EXPOSURE POINT CONCENTRATIONS

SITE NAME: AMIL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| CHEMICAL NAME | MEDIUM 1 INTERIOR RESIDUE | | | MEDIUM 2 INDOOR AIR | | | MEDIUM 3 INDOOR AIR REM | | | MEDIUM 4 | | | MEDIUM 5 | | |
|-------------------|---------------------------|---------|---------|---------------------|---------|---------|-------------------------|---------|---------|----------|---------|---------|----------|---------|---------|
| | Cs | Cc | C1 | Cs | Cc | C1 | Cs | Cc | C1 | Cs | Cc | C1 | Cs | Cc | C1 |
| 1 Antimony | 335 | 33C | 31L | 32S | 32C | 32L | 33S | 33C | 33L | 34S | 34C | 34L | 35S | 35C | 35L |
| 2 Arsenic | 2.1E-01 | 2.1E-01 | 2.1E-01 | 2.1E-06 | 2.1E-06 | 2.1E-06 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 |
| 3 Barium | 3.6E-00 | 3.6E-02 | 3.6E-02 | 3.6E-07 | 3.6E-07 | 3.6E-07 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-06 |
| 4 Beryllium | 1.3E+00 | 1.3E+00 | 1.3E+00 | 1.3E-05 | 1.3E-05 | 1.3E-05 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 | 1.3E-04 |
| 5 Cadmium (feed) | 9.8E+00 | 9.8E+00 | 9.8E+00 | 9.8E-05 | 9.8E-05 | 9.8E-05 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 | 9.8E-04 |
| 6 Chromium (VI) | 3.7E+00 | 3.7E+00 | 3.7E+00 | 3.7E-05 | 3.7E-05 | 3.7E-05 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 | 3.7E-04 |
| 7 Lead and Comp | 2.9E+01 | 2.9E+01 | 2.9E+01 | 2.9E-04 | 2.9E-04 | 2.9E-04 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 | 2.9E-03 |
| 8 Mercury, inorg | 1.9E-02 | 1.9E-02 | 1.9E-02 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 |
| 9 Nickel | 3.6E+00 | 3.6E+00 | 3.6E+00 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 | 3.6E-04 |
| 10 Silver | 2.0E-01 | 2.0E-01 | 2.0E-01 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 |
| 11 Vanadium | 3.0E-01 | 3.0E-01 | 3.0E-01 | 3.0E-06 | 3.0E-06 | 3.0E-06 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 | 3.0E-05 |
| 12 Cyanide (free) | 1.9E+00 | 1.9E+00 | 1.9E+00 | 1.9E-05 | 1.9E-05 | 1.9E-05 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 |
| 13 Nitrate, nitra | 6.2E+00 | 6.2E+00 | 6.2E+00 | 6.2E-05 | 6.2E-05 | 6.2E-05 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 | 6.2E-04 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 17 Benzo (a) anth | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-08 | 1.9E-08 | 1.9E-08 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-07 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 19 Benzo (b) fluo | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-08 | 1.7E-08 | 1.7E-08 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 |
| 20 Benzo (b,h,i) | 2.1E-03 | 2.1E-03 | 2.1E-03 | 2.1E-08 | 2.1E-08 | 2.1E-08 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 | 2.1E-07 |
| 21 Benzo (k,h,i) | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-08 | 5.1E-08 | 5.1E-08 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 |
| 22 Chrysene | 8.5E-04 | 8.5E-04 | 8.5E-04 | 8.5E-09 | 8.5E-09 | 8.5E-09 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 | 8.5E-08 |
| 23 Dibenz (a,h) o | 7.5E-03 | 7.5E-03 | 7.5E-03 | 7.5E-08 | 7.5E-08 | 7.5E-08 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 | 7.5E-07 |
| 24 Fluoranthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26 Methylenebthal | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 27 Naphthalene | 1.9E-02 | 1.9E-02 | 1.9E-02 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 |
| 28 Phenanthrene | 1.9E-02 | 1.9E-02 | 1.9E-02 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 |
| 29 Pyrene | 5.6E-03 | 5.6E-03 | 5.6E-03 | 5.6E-08 | 5.6E-08 | 5.6E-08 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 | 5.6E-07 |
| 30 Bis (2-ethylhe | 2.8E+00 | 2.8E+00 | 2.8E+00 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 | 2.8E-04 |
| 31 Butylbenzyl ph | 2.1E+00 | 2.1E+00 | 2.1E+00 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 | 2.1E-04 |
| 32 Di-n-butyl pht | 6.9E-01 | 6.9E-01 | 6.9E-01 | 6.9E-06 | 6.9E-06 | 6.9E-06 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 | 6.9E-05 |
| 33 Di-n-octyl pht | 3.4E-01 | 3.4E-01 | 3.4E-01 | 3.4E-06 | 3.4E-06 | 3.4E-06 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 | 3.4E-05 |
| 34 Aldrin | 3.9E-03 | 3.9E-03 | 3.9E-03 | 3.9E-08 | 3.9E-08 | 3.9E-08 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 36 Beta-Endosulf | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-08 | 1.1E-08 | 1.1E-08 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 | 1.1E-07 |
| 37 DDT, 4,4'- | 5.9E-04 | 5.9E-04 | 5.9E-04 | 5.9E-09 | 5.9E-09 | 5.9E-09 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 | 5.9E-08 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 39 DDT, 4,4'- | 5.1E-03 | 5.1E-03 | 5.1E-03 | 5.1E-08 | 5.1E-08 | 5.1E-08 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 | 5.1E-07 |
| 40 Dieldrin | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-08 | 1.7E-08 | 1.7E-08 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-07 |
| 41 Endrin | 3.9E-03 | 3.9E-03 | 3.9E-03 | 3.9E-08 | 3.9E-08 | 3.9E-08 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-07 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 44 Heptachlor epo | 2.4E-04 | 2.4E-04 | 2.4E-04 | 2.4E-09 | 2.4E-09 | 2.4E-09 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-08 |
| 45 Methoxychlor | 1.2E-02 | 1.2E-02 | 1.2E-02 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 | 1.2E-06 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 47 PCB 1260 | 5.3E-02 | 5.3E-02 | 5.3E-02 | 5.3E-07 | 5.3E-07 | 5.3E-07 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 | 5.3E-06 |
| 48 Dinitrotoluene | 3.3E-03 | 3.3E-03 | 3.3E-03 | 3.3E-08 | 3.3E-08 | 3.3E-08 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 | 3.3E-07 |
| 49 DDT | 4.1E-01 | 4.1E-01 | 4.1E-01 | 4.1E-06 | 4.1E-06 | 4.1E-06 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 | 4.1E-05 |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP1
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 39

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/LB/day) | | | | | |
|-------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.4E-05 | 7.0E-08 | 7.2E-07 | (FROM WS3) | (FROM WS5) | (FROM WS8) |
| 2 Arsenic | 2.0E-05 | 0.1E-08 | 0.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 4.5E-04 | 1.3E-04 | 1.4E-05 | 0 | 0 | 0 |
| 4 Beryllium | 0.0E+00 | 2.3E-10 | 2.4E-09 | 0 | 0 | 0 |
| 5 Cadmium (feed) | 1.2E-04 | 3.5E-04 | 3.6E-06 | 0 | 0 | 0 |
| 6 Chromium (VI) | 6.0E-04 | 2.0E-04 | 2.0E-05 | 0 | 0 | 0 |
| 7 Lead and Comp | 9.7E-04 | 1.7E-05 | 2.9E-05 | 0 | 0 | 0 |
| 8 Mercury, Inorg | 1.1E-05 | 3.3E-06 | 3.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 6.4E-04 | NA | 1.9E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.9E-05 | 5.4E-07 | 5.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 3.5E-05 | 1.0E-07 | 1.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.0E-05 | 1.7E-04 | 5.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 1.4E-04 | 4.0E-07 | 4.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 1.6E-08 | NA | 5.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 1.6E-07 | NA | 4.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.2E-06 | NA | 6.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 6.9E-08 | NA | 2.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 9.1E-07 | NA | 2.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.5E-06 | NA | 4.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 9.9E-08 | NA | 3.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebthal | 1.6E-07 | NA | 4.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 4.0E-07 | NA | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 2.8E-06 | NA | 8.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.8E-06 | NA | 7.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylh) | 1.9E-04 | NA | 5.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.8E-04 | NA | 4.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 1.2E-04 | NA | 3.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 9.7E-04 | NA | 2.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.7E-07 | 5.1E-09 | 5.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 9.9E-09 | 2.9E-10 | 3.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 6.0E-09 | 1.7E-10 | 1.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 3.4E-08 | 1.0E-09 | 1.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 8.8E-08 | 1.6E-09 | 1.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.7E-07 | 7.8E-09 | 8.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 8.3E-08 | 2.4E-09 | 2.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.4E-08 | 4.0E-10 | 4.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 8.8E-09 | 2.6E-10 | 2.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 4.3E-05 | 7.5E-06 | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 5.3E-07 | 9.3E-08 | 1.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT 39

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 6E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 9E-02 | 3E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 6E-03 | 2E-04 | 1E-02 | 0 | 0 | 0 |
| 4 Beryllium | 2E-05 | 9E-06 | NA | 0 | 0 | 0 |
| 5 Cadmium (feed) | NA | NA | NA | 0 | 0 | 0 |
| 6 Chromium (VI) | 3E-02 | 2E-03 | 2E-01 | 0 | 0 | 0 |
| 7 Lead and Comp | NA | NA | NA | 0 | 0 | 0 |
| 8 Mercury, Inorg | 4E-02 | 6E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Methyl | 3E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 4E-03 | 2E-03 | NA | 0 | 0 | 0 |
| 11 Vanadium | 5E-03 | 1E-03 | NA | 0 | 0 | 0 |
| 12 Cyanide (free) | 1E-03 | 9E-05 | 2E-03 | 0 | 0 | 0 |
| 13 Nitrate, nitra | 1E-03 | 4E-06 | NA | 0 | 0 | 0 |
| 14 Acenaphthene | 3E-08 | NA | NA | 0 | 0 | 0 |
| 15 Acenaphthylene | 4E-06 | NA | NA | 0 | 0 | 0 |
| 16 Anthracene | 0E+00 | NA | NA | 0 | 0 | 0 |
| 17 Benzo (a) anth | 5E-05 | NA | NA | 0 | 0 | 0 |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | 0 | 0 | 0 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | 0 | 0 | 0 |
| 20 Benzo (b,h,i) | 0E+00 | NA | NA | 0 | 0 | 0 |
| 21 Benzo (k) fluo | 2E-06 | NA | NA | 0 | 0 | 0 |
| 22 Chrysene | 2E-05 | NA | NA | 0 | 0 | 0 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0 | 0 | 0 |
| 24 Fluoranthene | 4E-06 | NA | NA | 0 | 0 | 0 |
| 25 Fluorene | 4E-06 | NA | NA | 0 | 0 | 0 |
| 26 Methylenebthal | 2E-07 | NA | NA | 0 | 0 | 0 |
| 27 Naphthalene | 1E-05 | NA | NA | 0 | 0 | 0 |
| 28 Phenanthrene | 9E-06 | NA | NA | 0 | 0 | 0 |
| 29 Pyrene | 9E-06 | NA | NA | 0 | 0 | 0 |
| 30 Bis (2-ethylh) | 1E-02 | NA | NA | 0 | 0 | 0 |
| 31 Butylbenzyl ph | 8E-05 | NA | NA | 0 | 0 | 0 |
| 32 Di-n-butyl ph | 1E-04 | NA | NA | 0 | 0 | 0 |
| 33 Di-n-octyl ph | 5E-04 | NA | NA | 0 | 0 | 0 |
| 34 Aldrin | 6E-03 | 2E-04 | NA | 0 | 0 | 0 |
| 35 Alpha-Endosulf | 5E-05 | 1E-06 | NA | 0 | 0 | 0 |
| 36 Beta-Endosulf | 3E-05 | 9E-07 | NA | 0 | 0 | 0 |
| 37 DDT, 4,4'- | NA | NA | NA | 0 | 0 | 0 |
| 38 DDE, 4,4'- | NA | NA | NA | 0 | 0 | 0 |
| 39 DDT, 4,4'- | NA | NA | NA | 0 | 0 | 0 |
| 40 Dieldrin | 5E-04 | 2E-05 | NA | 0 | 0 | 0 |
| 41 Endrin | 0E+00 | 0E+00 | NA | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | 3E-04 | 8E-06 | NA | 0 | 0 | 0 |
| 43 Heptachlor | 5E-06 | 1E-07 | NA | 0 | 0 | 0 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | NA | 0 | 0 | 0 |
| 45 Methoxychlor | 7E-04 | 2E-05 | NA | 0 | 0 | 0 |
| 46 PCB 1254 | 0E+00 | NA | NA | 0 | 0 | 0 |
| 47 PCB 1260 | 6E-03 | 1E-01 | NA | 0 | 0 | 0 |

| | | | | | | | | | |
|-------------------|---------|---------|---------|------------------|-------|-------|-------|-------|-------|
| 48 Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 49 RDX | 4.1E-06 | 1.2E-07 | 1.2E-07 | 1E-03 | 4E-05 | NA | 1E-01 | 2E+01 | 0E+00 |
| | | | | 9E-01 | 1E-01 | 2E+01 | 0E+00 | 0E+00 | 0E+00 |
| | | | | 2E+01 | | | | | |
| | | | | PATHWAY SUM (HT) | | | | | |
| | | | | POPULATION TOTAL | | | | | |

RANGE NAME: CSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP1
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

CHRONIC RISK SUMMARY

FUTURE
RESIDENT 39

FUTURE
RESIDENT 39

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | | CHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|----------------------------------|------------|------------|------------|------------|------------|-------------------------|-------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 1.5E-05 | 6.1E-08 | 4.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | BLDG 39 | BLDG 39 | BLDG 39 | 0 | 0 | 0 |
| 2 Arsenic | 1.7E-05 | 7.0E-08 | 5.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | INTERIOR RE | INTERIOR RE | INDOOR AIR | 0 | 0 | 0 |
| 3 Barium | 2.8E-04 | 1.1E-06 | 8.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | ORAL | DERMAL | INHALATION | 0 | 0 | 0 |
| 4 Beryllium | 5.0E-08 | 2.0E-10 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 8 Cadmium (food) | 7.5E-05 | 3.0E-06 | 2.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 4.1E-04 | 1.7E-06 | 1.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 6E-02 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 6.1E-04 | 1.5E-05 | 1.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4E-03 | 2E-04 | 6E-02 | 0 | 0 | 0 |
| 8 Mercury, inorg | 7.2E-06 | 2.9E-08 | 2.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1E-05 | 8E-06 | NA | 0 | 0 | 0 |
| 9 Methyl | 4.0E-04 | 1.2E-05 | 1.2E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7E-02 | 1E-01 | NA | 0 | 0 | 0 |
| 10 Silver | 1.2E-05 | 4.7E-07 | 3.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 9E-02 | 7E-03 | NA | 0 | 0 | 0 |
| 11 Vanadium | 2.2E-05 | 8.9E-08 | 6.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 1.2E-05 | 1.5E-06 | 3.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2E-02 | 5E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 8.5E-05 | 3.4E-07 | 2.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2E-03 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 1.1E-08 | NA | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3E-03 | 1E-03 | NA | 0 | 0 | 0 |
| 15 Acenaphthylene | 1.0E-07 | NA | 3.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 6E-04 | 7E-05 | 2E-04 | 0 | 0 | 0 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E-04 | 3E-06 | NA | 0 | 0 | 0 |
| 17 Benzo (a) anth | 1.3E-06 | NA | 4.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 4.3E-08 | NA | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 5.7E-07 | NA | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 9.3E-07 | NA | 2.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 6.2E-08 | NA | 1.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 1.0E-07 | NA | 3.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 2.5E-07 | NA | 7.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 6E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 1.7E-06 | NA | 5.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 8E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 1.6E-04 | NA | 4.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 1.2E-04 | NA | 3.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 6E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 1.0E-04 | NA | 3.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 7.4E-05 | NA | 2.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | 6.1E-06 | NA | 1.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 1.1E-07 | 4.4E-09 | 3.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 6.2E-09 | 2.5E-10 | 1.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1E-04 | 1E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 3.7E-09 | 1.5E-10 | 1.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1E-04 | 5E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 2.1E-08 | 8.7E-10 | 6.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 7E-05 | 3E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 3.5E-08 | 1.4E-09 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 1.7E-07 | 6.7E-09 | 5.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 8.2E-08 | 2.1E-09 | 1.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3E-04 | 1E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 8.6E-09 | 3.5E-10 | 2.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 5.5E-09 | 2.2E-10 | 1.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4E-04 | 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 2.7E-05 | 6.5E-06 | 8.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4E-01 | 1E-01 | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 3.3E-07 | 8.1E-08 | 9.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP1
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT 39

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.8E-04 | 2.4E-08 | 7.7E-08 | (FROM WS3) | (FROM WS3) | (FROM WS6) |
| 2 Arsenic | 3.0E-04 | 2.8E-08 | 8.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 4.8E-05 | 4.6E-07 | 1.4E-06 | 0 | 0 | 0 |
| 4 Beryllium | 8.5E-09 | 8.1E-11 | 2.6E-10 | 0 | 0 | 0 |
| 5 Cadmium (food) | 1.3E-05 | 1.2E-06 | 3.8E-07 | 0 | 0 | 0 |
| 6 Chromium (VI) | 7.2E-05 | 6.9E-07 | 2.2E-06 | 0 | 0 | 0 |
| 7 Lead and Comp | 1.0E-04 | 9.9E-06 | 3.1E-06 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 8 Mercury, Inorg | 1.2E-04 | 1.2E-08 | 3.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 6.8E-05 | NA | 2.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-04 | 1.9E-07 | 5.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 3.7E-04 | 3.5E-08 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.1E-04 | 5.9E-07 | 6.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 1.4E-05 | 1.4E-07 | 4.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 1.9E-09 | NA | 5.8E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 1.7E-08 | NA | 5.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.3E-07 | NA | 8.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) Pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 7.4E-09 | NA | 2.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 9.6E-08 | NA | 2.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.8E-07 | NA | 4.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 1.0E-08 | NA | 3.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylnaphthal | 1.8E-08 | NA | 5.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 4.2E-08 | NA | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 3.0E-07 | NA | 8.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.7E-07 | NA | 8.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 2.1E-05 | NA | 6.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.7E-05 | NA | 5.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 1.3E-05 | NA | 3.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 1.0E-04 | NA | 3.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.8E-08 | 1.7E-09 | 5.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.0E-09 | 9.9E-11 | 3.1E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 6.3E-10 | 6.0E-11 | 1.9E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 3.6E-09 | 3.4E-10 | 1.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 6.0E-09 | 5.7E-10 | 1.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.8E-08 | 2.7E-09 | 8.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 8.8E-09 | 8.3E-10 | 2.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.5E-09 | 1.4E-10 | 4.4E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 9.3E-10 | 8.8E-11 | 2.8E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1284 | 4.6E-06 | 2.6E-06 | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 5.6E-08 | 3.2E-08 | 1.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
RESIDENT 39

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 5E-06 | 5E-08 | 1E-06 | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 4E-08 | 7E-08 | 2E-09 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | NA | NA | 2E-06 | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | NA | NA | 9E-05 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Nickel | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | NA | NA | 2E-06 | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) Pyre | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,i) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylnaphthal | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1284 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: CSUM

CHRONIC EXPOSURE SUMMARY

FUTURE
COMM. WORKER 39

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/doy) | | | | | |
|-----------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 39 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 39 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 39 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 2.6E-07 | 2.4E-08 | 4.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 3.0E-07 | 2.8E-08 | 5.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 4.9E-06 | 4.4E-07 | 9.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.6E-10 | 0.1E-11 | 1.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 1.3E-06 | 1.2E-06 | 2.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 7.3E-06 | 6.9E-07 | 1.4E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 1.0E-05 | 9.9E-06 | 2.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.2E-07 | 1.2E-08 | 2.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 6.8E-06 | NA | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-07 | 1.9E-07 | 3.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 3.7E-07 | 3.9E-08 | 7.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.1E-07 | 6.0E-07 | 4.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Manganese | 1.9E-06 | 1.4E-07 | 2.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acetophenone | 1.9E-10 | NA | 3.7E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 1.7E-09 | NA | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzene (a) anth | 2.3E-08 | NA | 4.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzene (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzene (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzene (b,h,l) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzene (h) fluo | 7.4E-10 | NA | 1.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 9.7E-09 | NA | 1.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluorenone | 1.6E-08 | NA | 3.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 1.1E-09 | NA | 2.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebisphthal | 1.8E-09 | NA | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 4.3E-09 | NA | 8.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 3.0E-08 | NA | 5.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.8E-08 | NA | 5.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethyl) h | 2.1E-06 | NA | 4.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.7E-06 | NA | 3.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 1.3E-06 | NA | 2.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-ethyl ph | 1.0E-07 | NA | 2.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.9E-09 | 1.0E-09 | 3.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.1E-10 | 1.0E-10 | 2.0E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 6.4E-11 | 6.0E-11 | 1.2E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 3.7E-10 | 3.5E-10 | 7.0E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 6.0E-10 | 5.7E-10 | 1.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.8E-09 | 2.7E-09 | 5.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.9E-10 | 0.4E-10 | 1.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.5E-10 | 1.4E-10 | 2.8E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 9.4E-11 | 0.9E-11 | 1.8E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 4.6E-07 | 2.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 5.7E-09 | 3.2E-08 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP2
LAST UPDATED: 09/30/94

CHRONIC RISK SUMMARY

FUTURE
COMM. WORKER 39

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|-----------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 39 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 39 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 39 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 6E-04 | 6E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 1E-03 | 1E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 7E-05 | 7E-05 | 7E-03 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 2E-07 | 3E-08 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 1E-03 | 5E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 1E-03 | 3E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 4E-04 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Methyl | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 4E-05 | 8E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 5E-05 | 5E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 1E-05 | 3E-05 | 2E-05 | 0E+00 | 0E+00 | 0E+00 |
| 13 Manganese | 1E-05 | 1E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acetophenone | 3E-09 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 4E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzene (a) anth | 6E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzene (a) pyre | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzene (b) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzene (b,h,l) | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzene (h) fluo | 2E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 2E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluorenone | 4E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 4E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylenebisphthal | 3E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 4E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 1E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 9E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethyl) h | 1E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 9E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-ethyl ph | 5E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 6E-05 | 6E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 2E-06 | 2E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 1E-06 | 1E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 6E-06 | 5E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 3E-06 | 3E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 5E-07 | 5E-07 | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 7E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E-05 | 4E-02 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: AHTL
 OPERABLE UNIT: ZONE 2 BLDGS
 FILE NAME: POP2
 LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
 COMM. WORKER 39

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 9.2E-08 | 8.7E-09 | 1.8E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 2 Arsenic | 1.1E-07 | 1.0E-08 | 2.0E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 3 Barium | 1.7E-06 | 1.8E-07 | 3.3E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 4 Beryllium | 3.1E-10 | 2.9E-11 | 5.9E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 5 Cadmium (Food) | 4.6E-07 | 4.3E-07 | 8.8E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 6 Chromium (VI) | 2.6E-06 | 2.5E-07 | 5.0E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 7 Lead and Comp | 3.7E-06 | 2.1E-06 | 7.1E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 8 Mercury, Inorg | 4.4E-08 | 4.2E-09 | 8.4E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 9 Nickel | 2.4E-06 | NA | 4.7E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 10 Silver | 7.1E-08 | 6.7E-08 | 1.4E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 11 Vanadium | 1.3E-07 | 1.3E-08 | 2.6E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 12 Cyanide (Frac) | 7.5E-08 | 2.1E-07 | 1.4E-06 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 13 Nitrate, nitra | 5.2E-07 | 4.9E-08 | 1.0E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 14 Acenaphthene | 6.9E-11 | NA | 1.3E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 15 Acenaphthylene | 6.2E-10 | NA | 1.2E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 17 Benzo (a) anth | 8.3E-09 | NA | 1.6E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 20 Benzo (b,h,i) | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 21 Benzo (k) fluo | 2.6E-10 | NA | 5.1E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 22 Chrysene | 3.5E-09 | NA | 6.6E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 24 Fluoranthene | 5.7E-09 | NA | 1.1E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 25 Fluorene | 3.8E-10 | NA | 7.2E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 26 Methylanthral | 6.3E-10 | NA | 1.2E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 27 Naphthalene | 1.5E-09 | NA | 2.9E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 28 Phenanthrene | 1.1E-08 | NA | 2.0E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 29 Pyrene | 9.8E-09 | NA | 1.9E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 30 Bis (2-ethylhe | 7.4E-07 | NA | 1.4E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 31 Butylbenzyl ph | 6.1E-07 | NA | 1.2E-07 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 32 Di-n-butyl ph | 4.6E-07 | NA | 8.7E-08 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 33 Di-n-octyl ph | 3.7E-08 | NA | 7.1E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 34 Aldrin | 6.6E-10 | 6.3E-10 | 1.3E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 35 Alpha-Endosulf | 3.8E-11 | 3.6E-11 | 7.2E-12 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 36 Beta-Endosulf | 2.3E-11 | 2.2E-11 | 4.4E-12 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 37 DDE, 4,4'- | 1.3E-10 | 1.2E-10 | 2.3E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 38 DDE, 4,4'- | 2.1E-10 | 2.0E-10 | 4.1E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 39 DDT, 4,4'- | 1.0E-09 | 9.6E-10 | 2.0E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 41 Endrin | 3.2E-10 | 3.0E-10 | 6.1E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 42 Gamma-BHC (Lin | 5.3E-11 | 5.0E-11 | 1.0E-11 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 44 Heptachlor epo | 3.4E-11 | 3.2E-11 | 6.4E-12 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 46 PCB 1254 | 1.8E-07 | 9.3E-07 | 3.1E-06 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 47 PCB 1260 | 2.0E-09 | 1.2E-09 | 3.9E-10 | (FROM WS3) | (FROM WS4) | (FROM WS6) |

LIFETIME RISK SUMMARY

FUTURE
 COMM. WORKER 39

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2E-07 | 2E-08 | 3E-07 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | 1E-09 | 2E-08 | 5E-10 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 3 Barium | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 4 Beryllium | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 5 Cadmium (Food) | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 6 Chromium (VI) | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 7 Lead and Comp | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 8 Mercury, Inorg | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 9 Nickel | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 10 Silver | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 11 Vanadium | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 12 Cyanide (Frac) | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 13 Nitrate, nitra | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 14 Acenaphthene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 15 Acenaphthylene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 16 Anthracene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 17 Benzo (a) anth | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 18 Benzo (a) pyre | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 19 Benzo (b) fluo | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 20 Benzo (b,h,i) | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 21 Benzo (k) fluo | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 22 Chrysene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 23 Dibenz (a,h) a | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 24 Fluoranthene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 25 Fluorene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 26 Methylanthral | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 27 Naphthalene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 28 Phenanthrene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 29 Pyrene | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 30 Bis (2-ethylhe | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 31 Butylbenzyl ph | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 32 Di-n-butyl ph | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 33 Di-n-octyl ph | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 34 Aldrin | NA | 1E-08 | 2E-09 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 35 Alpha-Endosulf | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 36 Beta-Endosulf | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 37 DDE, 4,4'- | NA | 3E-11 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 38 DDE, 4,4'- | NA | 7E-11 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 39 DDT, 4,4'- | NA | 3E-10 | 7E-11 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 40 Dieldrin | NA | 0E+00 | 0E+00 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 41 Endrin | NA | 6E-11 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 42 Gamma-BHC (Lin | NA | 0E+00 | 0E+00 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 43 Heptachlor | NA | 3E-10 | 6E-11 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 44 Heptachlor epo | NA | NA | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 45 Methoxychlor | NA | 8E-08 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 46 PCB 1254 | NA | 9E-08 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 47 PCB 1260 | NA | 2E-08 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |

| | | | | | | | | | |
|------------------------------|----------------|---------|---------|---------|-------|-------|-------|-------|-------|
| 48 | Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 49 | MDR | 1.6E-08 | 1.5E-08 | 3.0E-09 | 2E-09 | NA | 2E-09 | 0E+00 | 0E+00 |
| TOTAL PATHWAY CANCER RISK | | | | | 1E-06 | 2E-05 | 0E+00 | 0E+00 | 0E+00 |
| POPULATION TOTAL EXCESS RISK | | | | | 3E-05 | | | | |

RANGE NAME: SSUM

SITE NAME: AHIL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP3
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RENOV. WORKER 39

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/Lb/day) | | | | | |
|-------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.6E-07 | 1.0E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 3.0E-07 | 1.2E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 4.9E-04 | 1.9E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 6.6E-10 | 3.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 1.3E-04 | 5.1E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 7.3E-04 | 2.9E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 1.0E-05 | 4.2E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.2E-07 | 4.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 6.6E-04 | 2.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-07 | 6.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 3.7E-07 | 1.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.1E-07 | 6.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 1.5E-04 | 5.8E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 1.9E-10 | 7.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 1.7E-09 | 7.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.3E-08 | 9.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 7.4E-10 | 3.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 9.7E-09 | 3.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.6E-06 | 6.4E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 1.1E-09 | 4.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebthal | 1.8E-09 | 7.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 4.3E-09 | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 3.0E-08 | 1.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.8E-08 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 2.1E-04 | 6.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.7E-04 | 6.8E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.3E-04 | 5.1E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 1.0E-07 | 4.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.9E-09 | 7.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.1E-10 | 4.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 6.4E-11 | 2.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDD, 4,4'- | 3.7E-10 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 6.0E-10 | 2.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.8E-09 | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 8.9E-10 | 3.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.5E-10 | 5.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 6.4E-11 | 3.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 4.6E-07 | 1.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 5.7E-09 | 2.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RENOV. WORKER 39

| SCENARIO 1 | SUBCHRONIC HAZARD QUOTIENT | | | | |
|-------------|----------------------------|------------|------------|------------|------------|
| | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| BLDG 39 | BLDG 39 | 0 | 0 | 0 | 0 |
| INTERIOR RE | INDOOR AIR | 0 | 0 | 0 | 0 |
| ORAL | INHALATION | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 6E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-03 | NA | | | | |
| 7E-05 | 1E-02 | | | | |
| 2E-07 | NA | | | | |
| NA | NA | | | | |
| 4E-04 | 3E+01 | | | | |
| 4E-04 | NA | | | | |
| 3E-04 | NA | | | | |
| 4E-05 | NA | | | | |
| 5E-05 | NA | | | | |
| 1E-05 | 3E-03 | | | | |
| 1E-05 | NA | | | | |
| 3E-10 | NA | | | | |
| 4E-08 | NA | | | | |
| 0E+00 | NA | | | | |
| 6E-07 | NA | | | | |
| 0E+00 | NA | | | | |
| 0E+00 | NA | | | | |
| 0E+00 | NA | | | | |
| 2E-07 | NA | | | | |
| 0E+00 | NA | | | | |
| 4E-08 | NA | | | | |
| 3E-09 | NA | | | | |
| 4E-08 | NA | | | | |
| 1E-07 | NA | | | | |
| 1E-07 | NA | | | | |
| 9E-08 | NA | | | | |
| 1E-04 | NA | | | | |
| 9E-07 | NA | | | | |
| 1E-06 | NA | | | | |
| 5E-06 | NA | | | | |
| 6E-05 | NA | | | | |
| 5E-07 | NA | | | | |
| 3E-07 | NA | | | | |
| NA | NA | | | | |
| 6E-06 | NA | | | | |
| 0E+00 | NA | | | | |
| 3E-06 | NA | | | | |
| 5E-08 | NA | | | | |
| 0E+00 | NA | | | | |
| 7E-06 | NA | | | | |
| 0E+00 | NA | | | | |
| 7E-03 | NA | | | | |
| 6E-05 | NA | | | | |

48 Dinitroethylene 0.0E+00 0.0E+00
 49 RDX 4.4E-08 1.7E-07

0E+00 NA
 1E-05 NA

PATHWAY SUM (HT)
 POPULATION TOTAL

1E-02 3E+01 0E+00 0E+00 0E+00 0E+00
 3E+01

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP3
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
REMOV. WORKER 39

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 3.7E-09 | 1.5E-08 | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | 4.2E-09 | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 6.9E-08 | 2.8E-07 | 0 | 0 | 0 | 0 |
| 4 Beryllium | 1.2E-11 | 6.9E-11 | 0 | 0 | 0 | 0 |
| 5 Cadmium (feed) | 1.8E-08 | 7.3E-08 | 0 | 0 | 0 | 0 |
| 6 Chromium (VI) | 1.0E-07 | 4.2E-07 | 0 | 0 | 0 | 0 |
| 7 Lead and Comp | 1.5E-07 | 5.9E-07 | 0 | 0 | 0 | 0 |
| 8 Mercury, inorg | 1.8E-09 | 7.0E-09 | 0 | 0 | 0 | 0 |
| 9 Methyl | 9.8E-08 | 3.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.8E-09 | 1.1E-08 | 0 | 0 | 0 | 0 |
| 11 Vanadium | 5.3E-09 | 2.1E-08 | 0 | 0 | 0 | 0 |
| 12 Cyanide (free) | 3.0E-09 | 1.2E-08 | 0 | 0 | 0 | 0 |
| 13 Nitrate, nitra | 2.1E-08 | 8.3E-08 | 0 | 0 | 0 | 0 |
| 14 Acenaphthene | 2.8E-12 | 1.1E-11 | 0 | 0 | 0 | 0 |
| 15 Acenaphthylene | 2.5E-11 | 1.0E-10 | 0 | 0 | 0 | 0 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 17 Benzo (a) anth | 3.3E-10 | 1.3E-09 | 0 | 0 | 0 | 0 |
| 18 Benzo (a) pyro | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 20 Benzo (g,h,i) | 1.1E-11 | 4.2E-11 | 0 | 0 | 0 | 0 |
| 21 Benzo (k) fluo | 1.4E-10 | 5.5E-10 | 0 | 0 | 0 | 0 |
| 22 Chrysene | 2.3E-10 | 9.1E-10 | 0 | 0 | 0 | 0 |
| 23 Dibenz (a,h) a | 1.5E-11 | 6.0E-11 | 0 | 0 | 0 | 0 |
| 24 Fluoranthene | 2.3E-10 | 9.1E-10 | 0 | 0 | 0 | 0 |
| 25 Fluorene | 1.5E-11 | 6.0E-11 | 0 | 0 | 0 | 0 |
| 26 Methylanthra | 2.5E-11 | 1.0E-10 | 0 | 0 | 0 | 0 |
| 27 Naphthalene | 6.1E-11 | 2.4E-10 | 0 | 0 | 0 | 0 |
| 28 Phenanthrene | 4.2E-10 | 1.7E-09 | 0 | 0 | 0 | 0 |
| 29 Pyrene | 3.9E-10 | 1.6E-09 | 0 | 0 | 0 | 0 |
| 30 Bis (2-ethylhe | 3.0E-08 | 1.2E-07 | 0 | 0 | 0 | 0 |
| 31 Butylbenzyl ph | 2.4E-08 | 9.6E-08 | 0 | 0 | 0 | 0 |
| 32 Di-n-butyl pht | 1.8E-08 | 7.3E-08 | 0 | 0 | 0 | 0 |
| 33 Di-n-octyl pht | 1.5E-09 | 6.0E-09 | 0 | 0 | 0 | 0 |
| 34 Aldrin | 2.7E-11 | 1.1E-10 | 0 | 0 | 0 | 0 |
| 35 Alpha-Endosulf | 1.5E-12 | 6.0E-12 | 0 | 0 | 0 | 0 |
| 36 Beta-Endosulfa | 9.1E-13 | 3.6E-12 | 0 | 0 | 0 | 0 |
| 37 DDE, 4,4'- | 8.2E-12 | 2.1E-11 | 0 | 0 | 0 | 0 |
| 38 DDE, 4,4'- | 0.6E-12 | 2.4E-11 | 0 | 0 | 0 | 0 |
| 39 DDT, 4,4'- | 4.1E-11 | 1.6E-10 | 0 | 0 | 0 | 0 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 41 Endrin | 1.3E-11 | 5.1E-11 | 0 | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | 2.1E-12 | 8.4E-12 | 0 | 0 | 0 | 0 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 44 Heptachlor epo | 1.3E-12 | 5.4E-12 | 0 | 0 | 0 | 0 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0 | 0 | 0 | 0 |
| 46 PCB 1284 | 6.6E-09 | 2.6E-08 | 0 | 0 | 0 | 0 |
| 47 PCB 1260 | 8.1E-11 | 3.2E-10 | 0 | 0 | 0 | 0 |

LIFETIME RISK SUMMARY

FUTURE
REMOV. WORKER 39

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 7E-09 | 3E-07 | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 5E-11 | 4E-10 | 0 | 0 | 0 | 0 |
| 4 Beryllium | NA | NA | 0 | 0 | 0 | 0 |
| 5 Cadmium (feed) | NA | 4E-07 | 0 | 0 | 0 | 0 |
| 6 Chromium (VI) | NA | 2E-05 | 0 | 0 | 0 | 0 |
| 7 Lead and Comp | NA | NA | 0 | 0 | 0 | 0 |
| 8 Mercury, inorg | NA | NA | 0 | 0 | 0 | 0 |
| 9 Methyl | NA | 3E-07 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | NA | NA | 0 | 0 | 0 | 0 |
| 11 Vanadium | NA | NA | 0 | 0 | 0 | 0 |
| 12 Cyanide (free) | NA | NA | 0 | 0 | 0 | 0 |
| 13 Nitrate, nitra | NA | NA | 0 | 0 | 0 | 0 |
| 14 Acenaphthene | NA | NA | 0 | 0 | 0 | 0 |
| 15 Acenaphthylene | NA | NA | 0 | 0 | 0 | 0 |
| 16 Anthracene | NA | NA | 0 | 0 | 0 | 0 |
| 17 Benzo (a) anth | NA | NA | 0 | 0 | 0 | 0 |
| 18 Benzo (a) pyro | NA | NA | 0 | 0 | 0 | 0 |
| 19 Benzo (b) fluo | NA | NA | 0 | 0 | 0 | 0 |
| 20 Benzo (g,h,i) | NA | NA | 0 | 0 | 0 | 0 |
| 21 Benzo (k) fluo | NA | NA | 0 | 0 | 0 | 0 |
| 22 Chrysene | NA | NA | 0 | 0 | 0 | 0 |
| 23 Dibenz (a,h) a | NA | NA | 0 | 0 | 0 | 0 |
| 24 Fluoranthene | NA | NA | 0 | 0 | 0 | 0 |
| 25 Fluorene | NA | NA | 0 | 0 | 0 | 0 |
| 26 Methylanthra | NA | NA | 0 | 0 | 0 | 0 |
| 27 Naphthalene | NA | NA | 0 | 0 | 0 | 0 |
| 28 Phenanthrene | NA | NA | 0 | 0 | 0 | 0 |
| 29 Pyrene | NA | NA | 0 | 0 | 0 | 0 |
| 30 Bis (2-ethylhe | NA | NA | 0 | 0 | 0 | 0 |
| 31 Butylbenzyl ph | NA | NA | 0 | 0 | 0 | 0 |
| 32 Di-n-butyl pht | NA | NA | 0 | 0 | 0 | 0 |
| 33 Di-n-octyl pht | NA | NA | 0 | 0 | 0 | 0 |
| 34 Aldrin | NA | NA | 0 | 0 | 0 | 0 |
| 35 Alpha-Endosulf | NA | 2E-09 | 0 | 0 | 0 | 0 |
| 36 Beta-Endosulfa | NA | NA | 0 | 0 | 0 | 0 |
| 37 DDE, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 38 DDE, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 39 DDT, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 40 Dieldrin | NA | NA | 0 | 0 | 0 | 0 |
| 41 Endrin | NA | NA | 0 | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | NA | NA | 0 | 0 | 0 | 0 |
| 43 Heptachlor | NA | NA | 0 | 0 | 0 | 0 |
| 44 Heptachlor epo | NA | NA | 0 | 0 | 0 | 0 |
| 45 Methoxychlor | NA | NA | 0 | 0 | 0 | 0 |
| 46 PCB 1284 | NA | 5E-11 | 0 | 0 | 0 | 0 |
| 47 PCB 1260 | NA | NA | 0 | 0 | 0 | 0 |

RANGE NAME: SSUM

SITE NAME: AMTL
 OPERABLE UNIT: ZONE 2 BLDGS
 FILE NAME: POP4
 LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
 RESIDENT 311

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|--------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.2E-05 | 0.5E-06 | 0.7E-07 | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | 3.7E-06 | 1.1E-08 | 1.1E-07 | 0 | 0 | 0 |
| 3 Barium | 5.1E-04 | 1.8E-06 | 1.3E-05 | 0 | 0 | 0 |
| 4 Beryllium | 4.1E-07 | 1.2E-09 | 1.2E-08 | 0 | 0 | 0 |
| 5 Cadmium (food) | 7.0E-05 | 2.0E-06 | 2.1E-06 | 0 | 0 | 0 |
| 6 Chromium (VI) | 3.8E-04 | 1.1E-06 | 1.1E-05 | 0 | 0 | 0 |
| 7 Lead and Comp | 1.6E-03 | 2.7E-05 | 4.7E-05 | 0 | 0 | 0 |
| 8 Mercury, Inorg | 1.8E-06 | 5.3E-09 | 5.4E-08 | 0 | 0 | 0 |
| 9 Nickel | 3.1E-04 | NA | 9.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 3.7E-06 | 1.1E-07 | 1.1E-07 | 0 | 0 | 0 |
| 11 Vanadium | 1.0E-04 | 3.0E-07 | 3.0E-06 | 0 | 0 | 0 |
| 12 Cyanide (free) | 2.8E-06 | 2.4E-07 | 8.3E-06 | 0 | 0 | 0 |
| 13 Nitrate, nitra | 1.9E-03 | 4.4E-06 | 4.6E-05 | 0 | 0 | 0 |
| 14 Acenaphthene | 2.2E-07 | NA | 6.6E-09 | 0 | 0 | 0 |
| 15 Acenaphthylene | 1.8E-07 | NA | 5.4E-09 | 0 | 0 | 0 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 17 Benzo (a) anth | 2.4E-06 | NA | 7.3E-08 | 0 | 0 | 0 |
| 18 Benzo (a) Pyro | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 19 Benzo (b, h, i) | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 20 Benzo (k) fluo | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 21 Benzo (k) fluo | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 22 Chrysene | 1.2E-06 | NA | 3.6E-08 | 0 | 0 | 0 |
| 23 Dibenz (a, h) a | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 24 Fluoranthene | 1.8E-05 | NA | 5.5E-07 | 0 | 0 | 0 |
| 25 Fluorene | 3.6E-07 | NA | 9.5E-10 | 0 | 0 | 0 |
| 26 Methylanthra | 3.2E-08 | NA | 4.1E-07 | 0 | 0 | 0 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 |
| 28 Phenanthrene | 1.4E-05 | NA | 4.1E-07 | 0 | 0 | 0 |
| 29 Pyrene | 5.3E-06 | NA | 1.6E-07 | 0 | 0 | 0 |
| 30 Bis (2-ethylhe | 2.2E-04 | NA | 6.7E-06 | 0 | 0 | 0 |
| 31 Butylbenzyl ph | 1.0E-04 | NA | 3.1E-06 | 0 | 0 | 0 |
| 32 Di-n-butyl pht | 9.4E-06 | NA | 2.8E-07 | 0 | 0 | 0 |
| 33 Di-n-octyl pht | 3.1E-05 | NA | 9.3E-07 | 0 | 0 | 0 |
| 34 Aldrin | 3.0E-06 | 0.7E-10 | 0.9E-10 | 0 | 0 | 0 |
| 35 Alpha-Endosulf | 1.3E-07 | 3.9E-09 | 4.0E-09 | 0 | 0 | 0 |
| 36 Beta-Endosulf | 3.5E-07 | 1.0E-06 | 1.0E-06 | 0 | 0 | 0 |
| 37 DDE, 4,4'- | 4.7E-07 | 1.4E-06 | 1.4E-06 | 0 | 0 | 0 |
| 38 DDE, 4,4'- | 6.1E-07 | 1.0E-06 | 1.0E-06 | 0 | 0 | 0 |
| 39 DDT, 4,4'- | 2.3E-06 | 6.8E-06 | 7.0E-06 | 0 | 0 | 0 |
| 40 Dieldrin | 8.2E-07 | 3.3E-06 | 3.4E-06 | 0 | 0 | 0 |
| 41 Endrin | 1.1E-06 | 3.3E-06 | 3.4E-06 | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | 6.9E-07 | 2.0E-06 | 2.1E-06 | 0 | 0 | 0 |
| 43 Heptachlor | 2.1E-07 | 6.0E-09 | 6.2E-09 | 0 | 0 | 0 |
| 44 Heptachlor epo | 1.7E-07 | 4.9E-09 | 5.0E-09 | 0 | 0 | 0 |
| 45 Methoxychlor | 1.3E-06 | NA | 3.8E-08 | 0 | 0 | 0 |
| 46 PCB 1254 | 1.1E-07 | 1.9E-06 | 3.3E-06 | 0 | 0 | 0 |
| 47 PCB 1260 | 2.4E-07 | 4.2E-06 | 7.1E-09 | 0 | 0 | 0 |

SUBCHRONIC RISK SUMMARY

FUTURE
 RESIDENT 311

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|--------------------|----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 6E-02 | 2E-03 | NA | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | 1E-02 | 4E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 7E-03 | 2E-04 | 1E-02 | 0 | 0 | 0 |
| 4 Beryllium | 8E-05 | 5E-05 | NA | 0 | 0 | 0 |
| 5 Cadmium (food) | NA | NA | NA | 0 | 0 | 0 |
| 6 Chromium (VI) | 2E-02 | 1E-03 | 1E+01 | 0 | 0 | 0 |
| 7 Lead and Comp | 6E-03 | 9E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | 2E-02 | 4E-04 | NA | 0 | 0 | 0 |
| 9 Nickel | 7E-04 | 4E-04 | NA | 0 | 0 | 0 |
| 10 Silver | 1E-02 | 4E-03 | NA | 0 | 0 | 0 |
| 11 Vanadium | 1E-04 | 1E-05 | 3E-04 | 0 | 0 | 0 |
| 12 Cyanide (free) | 2E-02 | 4E-05 | NA | 0 | 0 | 0 |
| 13 Nitrate, nitra | 1E-04 | 1E-05 | NA | 0 | 0 | 0 |
| 14 Acenaphthene | 2E-02 | 4E-05 | NA | 0 | 0 | 0 |
| 15 Acenaphthylene | 4E-07 | NA | NA | 0 | 0 | 0 |
| 16 Anthracene | 4E-06 | NA | NA | 0 | 0 | 0 |
| 17 Benzo (a) anth | 0E+00 | NA | NA | 0 | 0 | 0 |
| 18 Benzo (a) Pyro | 6E-05 | NA | NA | 0 | 0 | 0 |
| 19 Benzo (b, h, i) | 0E+00 | NA | NA | 0 | 0 | 0 |
| 20 Benzo (k) fluo | 0E+00 | NA | NA | 0 | 0 | 0 |
| 21 Benzo (k) fluo | 0E+00 | NA | NA | 0 | 0 | 0 |
| 22 Chrysene | 3E-05 | NA | NA | 0 | 0 | 0 |
| 23 Dibenz (a, h) a | 0E+00 | NA | NA | 0 | 0 | 0 |
| 24 Fluoranthene | 5E-05 | NA | NA | 0 | 0 | 0 |
| 25 Fluorene | 9E-07 | NA | NA | 0 | 0 | 0 |
| 26 Methylanthra | 8E-07 | NA | NA | 0 | 0 | 0 |
| 27 Naphthalene | 0E+00 | NA | NA | 0 | 0 | 0 |
| 28 Phenanthrene | 5E-05 | NA | NA | 0 | 0 | 0 |
| 29 Pyrene | 2E-05 | NA | NA | 0 | 0 | 0 |
| 30 Bis (2-ethylhe | 1E-02 | NA | NA | 0 | 0 | 0 |
| 31 Butylbenzyl ph | 5E-05 | NA | NA | 0 | 0 | 0 |
| 32 Di-n-butyl pht | 9E-06 | NA | NA | 0 | 0 | 0 |
| 33 Di-n-octyl pht | 2E-03 | NA | NA | 0 | 0 | 0 |
| 34 Aldrin | 1E-03 | 3E-05 | NA | 0 | 0 | 0 |
| 35 Alpha-Endosulf | 7E-04 | 2E-05 | NA | 0 | 0 | 0 |
| 36 Beta-Endosulf | 2E-03 | 5E-05 | NA | 0 | 0 | 0 |
| 37 DDE, 4,4'- | NA | NA | NA | 0 | 0 | 0 |
| 38 DDE, 4,4'- | NA | NA | NA | 0 | 0 | 0 |
| 39 DDT, 4,4'- | 5E-03 | 1E-04 | NA | 0 | 0 | 0 |
| 40 Dieldrin | 1E-02 | 1E-04 | NA | 0 | 0 | 0 |
| 41 Endrin | 4E-03 | 1E-04 | NA | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | 2E-04 | 7E-06 | NA | 0 | 0 | 0 |
| 43 Heptachlor | 4E-04 | 1E-05 | NA | 0 | 0 | 0 |
| 44 Heptachlor epo | 1E-02 | 4E-04 | NA | 0 | 0 | 0 |
| 45 Methoxychlor | 3E-04 | NA | NA | 0 | 0 | 0 |
| 46 PCB 1254 | 2E-03 | 3E-04 | NA | 0 | 0 | 0 |
| 47 PCB 1260 | 3E-03 | 6E-04 | NA | 0 | 0 | 0 |

RANGE NAME: CSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP4
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 311

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 1.4E-05 | 5.6E-06 | 4.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.3E-04 | 9.4E-09 | 7.0E-08 | | | |
| 3 Barium | 3.2E-04 | 1.3E-06 | 9.6E-06 | | | |
| 4 Beryllium | 2.6E-07 | 1.0E-09 | 7.7E-09 | | | |
| 5 Cadmium (food) | 4.4E-05 | 1.8E-06 | 1.3E-06 | | | |
| 6 Chromium (VI) | 2.4E-04 | 9.6E-07 | 7.1E-06 | | | |
| 7 Lead and Comp | 9.8E-04 | 2.4E-05 | 2.9E-05 | | | |
| 8 Mercury, Inorg | 1.1E-04 | 4.6E-09 | 3.4E-08 | | | |
| 9 Nickel | 1.9E-04 | NA | 5.8E-06 | | | |
| 10 Silver | 2.3E-06 | 9.3E-06 | 6.9E-08 | | | |
| 11 Vanadium | 6.3E-05 | 2.6E-07 | 1.9E-06 | | | |
| 12 Cyanide (free) | 1.7E-04 | 2.1E-07 | 5.2E-06 | | | |
| 13 Nitrate, nitra | 9.5E-04 | 3.9E-06 | 2.9E-05 | | | |
| 14 Acenaphthene | 1.4E-07 | NA | 4.1E-09 | | | |
| 15 Acenaphthylene | 1.1E-07 | NA | 3.3E-09 | | | |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | | | |
| 17 Benzo (a) anth | 1.5E-06 | NA | 4.5E-08 | | | |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | | | |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | | | |
| 20 Benzo (g,h,i) | 0.0E+00 | NA | 0.0E+00 | | | |
| 21 Benzo (h) fluo | 0.0E+00 | NA | 0.0E+00 | | | |
| 22 Chrysene | 7.4E-07 | NA | 2.2E-08 | | | |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | | | |
| 24 Fluoranthene | 1.2E-05 | NA | 3.5E-07 | | | |
| 25 Fluorene | 2.2E-07 | NA | 6.7E-09 | | | |
| 26 Methylenehal | 0.0E+00 | NA | 0.0E+00 | | | |
| 27 Naphthalene | 0.0E+00 | NA | 5.9E-10 | | | |
| 28 Phenanthrene | 8.6E-06 | NA | 2.6E-07 | | | |
| 29 Pyrene | 3.3E-06 | NA | 1.0E-07 | | | |
| 30 Bis (2-ethylhe | 1.4E-04 | NA | 4.2E-06 | | | |
| 31 Butylbenzyl ph | 6.4E-05 | NA | 1.9E-06 | | | |
| 32 Di-n-butyl ph | 5.9E-06 | NA | 1.8E-07 | | | |
| 33 Di-n-octyl ph | 1.9E-05 | NA | 5.9E-07 | | | |
| 34 Aldrin | 1.9E-06 | 7.5E-10 | 5.8E-10 | | | |
| 35 Alpha-Endosulf | 8.4E-06 | 3.4E-09 | 2.5E-09 | | | |
| 36 Beta-Endosulf | 2.2E-07 | 8.9E-09 | 6.5E-09 | | | |
| 37 DDE, 4,4'- | 3.0E-07 | 1.2E-06 | 8.9E-09 | | | |
| 38 DDE, 4,4'- | 3.8E-07 | 1.5E-06 | 1.1E-06 | | | |
| 39 DDT, 4,4'- | 1.5E-06 | 9.9E-06 | 4.4E-06 | | | |
| 40 Dieldrin | 3.2E-07 | 1.3E-06 | 9.7E-09 | | | |
| 41 Endrin | 7.1E-07 | 2.9E-06 | 2.1E-06 | | | |
| 42 Gamma-BHC (Lin | 4.3E-07 | 1.8E-06 | 1.3E-06 | | | |
| 43 Heptachlor | 1.3E-07 | 5.2E-09 | 3.9E-09 | | | |
| 44 Heptachlor epo | 1.0E-07 | 4.3E-09 | 3.1E-09 | | | |
| 45 Methoxychlor | 8.0E-07 | NA | 2.4E-06 | | | |
| 46 PCB 1254 | 6.8E-06 | 1.7E-06 | 2.0E-09 | | | |
| 47 PCB 1260 | 1.5E-07 | 3.6E-06 | 4.5E-09 | | | |

CHRONIC RISK SUMMARY

FUTURE
RESIDENT 311

| | CHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 3E-02 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 8E-03 | 3E-05 | NA | | | |
| 3 Barium | 5E-03 | 2E-04 | 7E-02 | | | |
| 4 Beryllium | 5E-05 | 4E-05 | NA | | | |
| 5 Cadmium (food) | 4E-02 | 7E-02 | NA | | | |
| 6 Chromium (VI) | 5E-02 | 4E-03 | NA | | | |
| 7 Lead and Comp | NA | NA | NA | | | |
| 8 Mercury, Inorg | 4E-03 | 8E-04 | NA | | | |
| 9 Nickel | 1E-02 | NA | NA | | | |
| 10 Silver | 5E-04 | 4E-04 | NA | | | |
| 11 Vanadium | 9E-03 | 4E-03 | NA | | | |
| 12 Cyanide (free) | 9E-05 | 1E-05 | 3E-05 | | | |
| 13 Nitrate, nitra | 1E-02 | 4E-05 | NA | | | |
| 14 Acenaphthene | 2E-06 | NA | NA | | | |
| 15 Acenaphthylene | 3E-06 | NA | NA | | | |
| 16 Anthracene | 0E+00 | NA | NA | | | |
| 17 Benzo (a) anth | 4E-05 | NA | NA | | | |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | | | |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | | | |
| 20 Benzo (g,h,i) | 0E+00 | NA | NA | | | |
| 21 Benzo (h) fluo | 0E+00 | NA | NA | | | |
| 22 Chrysene | 2E-05 | NA | NA | | | |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | | | |
| 24 Fluoranthene | 3E-04 | NA | NA | | | |
| 25 Fluorene | 6E-06 | NA | NA | | | |
| 26 Methylenehal | 5E-07 | NA | NA | | | |
| 27 Naphthalene | 0E+00 | NA | NA | | | |
| 28 Phenanthrene | 3E-04 | NA | NA | | | |
| 29 Pyrene | 1E-04 | NA | NA | | | |
| 30 Bis (2-ethylhe | 7E-03 | NA | NA | | | |
| 31 Butylbenzyl ph | 3E-04 | NA | NA | | | |
| 32 Di-n-butyl ph | 6E-05 | NA | NA | | | |
| 33 Di-n-octyl ph | 1E-03 | NA | NA | | | |
| 34 Aldrin | 6E-04 | 3E-05 | NA | | | |
| 35 Alpha-Endosulf | 2E-03 | 7E-05 | NA | | | |
| 36 Beta-Endosulf | 4E-03 | 2E-04 | NA | | | |
| 37 DDE, 4,4'- | NA | NA | NA | | | |
| 38 DDE, 4,4'- | NA | NA | NA | | | |
| 39 DDT, 4,4'- | 3E-03 | 1E-04 | NA | | | |
| 40 Dieldrin | 6E-03 | 1E-04 | NA | | | |
| 41 Endrin | 2E-03 | 1E-04 | NA | | | |
| 42 Gamma-BHC (Lin | 1E-03 | 6E-05 | NA | | | |
| 43 Heptachlor | 3E-04 | 1E-05 | NA | | | |
| 44 Heptachlor epo | 8E-03 | 3E-04 | NA | | | |
| 45 Methoxychlor | 2E-04 | NA | NA | | | |
| 46 PCB 1254 | 1E-03 | 2E-04 | NA | | | |
| 47 PCB 1260 | 2E-03 | 5E-04 | NA | | | |

RANGE NAME: LSUM

SITE NAME: AHTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP4
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT 311

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|---------------------|---|---|--|-------------------------------|-------------------------------|-------------------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 0 (FROM WS4) | SCENARIO 5 0 (FROM WS5) | SCENARIO 6 0 (FROM WS6) |
| 1 Antimony | 2.4E-06 | 2.2E-06 | 7.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 4.0E-07 | 3.7E-09 | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 9.5E-09 | 6.2E-07 | 1.4E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 4.4E-06 | 4.1E-10 | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 7.5E-06 | 7.1E-07 | 2.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 4.0E-05 | 3.0E-07 | 1.2E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 1.7E-04 | 9.4E-06 | 5.0E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 1.9E-07 | 1.8E-09 | 5.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 3.3E-05 | NA | 9.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 3.9E-07 | 3.7E-08 | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.1E-05 | 1.0E-07 | 3.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.9E-07 | 6.4E-09 | 8.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 1.4E-04 | 1.5E-04 | 4.9E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 2.3E-06 | NA | 7.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 1.9E-06 | NA | 5.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.6E-07 | NA | 7.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (k) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 1.3E-07 | NA | 3.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 2.0E-06 | NA | 5.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 3.8E-06 | NA | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthracene | 3.4E-09 | NA | 1.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.5E-06 | NA | 4.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 9.7E-07 | NA | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylthi | 2.4E-05 | NA | 7.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.1E-05 | NA | 3.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.0E-06 | NA | 3.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 3.3E-04 | NA | 9.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.2E-09 | 3.0E-10 | 9.5E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.4E-08 | 1.3E-09 | 4.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 3.7E-08 | 3.8E-09 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 5.0E-08 | 4.8E-09 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDT, 4,4'- | 6.9E-08 | 6.1E-09 | 1.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.5E-07 | 2.3E-08 | 7.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 5.5E-06 | 5.2E-09 | 1.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.2E-07 | 1.1E-08 | 3.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 7.3E-08 | 6.9E-09 | 2.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 2.2E-08 | 2.1E-09 | 6.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 1.8E-08 | 1.7E-09 | 5.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 1.4E-07 | NA | 4.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 1.2E-06 | 6.8E-09 | 3.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.5E-06 | 1.4E-08 | 7.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
RESIDENT 311

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|---------------------|---|---|--|-------------------------------|-------------------------------|-------------------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 0 (FROM WS4) | SCENARIO 5 0 (FROM WS5) | SCENARIO 6 0 (FROM WS6) |
| 1 Antimony | 7E-07 | 7E-09 | 2E-07 | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 2E-07 | 4E-07 | 1E-06 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | NA | NA | 5E-05 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Methyl | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (k) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (h) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthracene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylthi | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: CSUM

CHRONIC EXPOSURE SUMMARY

FUTURE
COMM. WORKER 311

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|---------------------|---|---|--|--------------------|--------------------|--------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION | SCENARIO 4 0 | SCENARIO 5 0 | SCENARIO 6 0 |
| 1 Antimony | 2.4E-07 | 2.3E-08 | 4.6E-08 | (FROM WS4) 0.0E+00 | (FROM WS5) 0.0E+00 | (FROM WS6) 0.0E+00 |
| 2 Arsenic | 4.0E-08 | 3.8E-09 | 7.7E-09 | | | |
| 3 Barium | 5.5E-04 | 5.2E-07 | 1.1E-06 | | | |
| 4 Beryllium | 4.4E-09 | 4.2E-10 | 8.4E-10 | | | |
| 5 Cadmium (Food) | 7.5E-07 | 7.1E-07 | 1.4E-07 | | | |
| 6 Chromium (VI) | 4.1E-04 | 3.8E-07 | 7.8E-07 | | | |
| 7 Lead and Comp | 1.7E-05 | 9.5E-06 | 3.2E-06 | | | |
| 8 Mercury, Inorg | 1.9E-08 | 1.8E-09 | 3.7E-09 | | | |
| 9 Nickel | 3.3E-04 | NA | 6.4E-07 | | | |
| 10 Silver | 3.9E-08 | 3.7E-08 | 7.6E-09 | | | |
| 11 Vanadium | 1.1E-04 | 1.0E-07 | 2.1E-07 | | | |
| 12 Cyanide (Free) | 3.0E-08 | 8.4E-08 | 5.7E-09 | | | |
| 13 Nitrate, nitra | 1.6E-05 | 1.5E-04 | 3.1E-06 | | | |
| 14 Acenaphthene | 2.4E-09 | NA | 4.5E-10 | | | |
| 15 Acenaphthylene | 1.9E-09 | NA | 3.7E-10 | | | |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | | | |
| 17 Benzo (a) anth | 2.6E-08 | NA | 5.0E-09 | | | |
| 18 Benzo (e) pyra | 0.0E+00 | NA | 0.0E+00 | | | |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | | | |
| 20 Benzo (g,h,i) | 0.0E+00 | NA | 0.0E+00 | | | |
| 21 Benzo (h,i) fluo | 0.0E+00 | NA | 2.4E-09 | | | |
| 22 Chrysene | 1.3E-08 | NA | 0.0E+00 | | | |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | | | |
| 24 Fluorene | 2.0E-07 | NA | 3.8E-08 | | | |
| 25 Fluorene | 3.8E-09 | NA | 7.3E-10 | | | |
| 26 Methylenebiphtal | 3.4E-10 | NA | 6.5E-11 | | | |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | | | |
| 28 Phenanthrene | 1.5E-07 | NA | 2.8E-08 | | | |
| 29 Pyrene | 5.7E-08 | NA | 1.1E-08 | | | |
| 30 Bis (2-ethylhe | 2.4E-06 | NA | 4.6E-07 | | | |
| 31 Butylbenzyl ph | 1.1E-06 | NA | 2.1E-07 | | | |
| 32 Di-n-butyl pht | 1.0E-07 | NA | 1.9E-08 | | | |
| 33 Di-n-octyl pht | 3.3E-07 | NA | 6.4E-08 | | | |
| 34 Aldrin | 3.2E-10 | 3.0E-10 | 6.1E-11 | | | |
| 35 Alpha-Endosulf | 1.4E-09 | 1.4E-09 | 2.8E-10 | | | |
| 36 Beta-Endosulf | 3.7E-09 | 3.5E-09 | 7.2E-10 | | | |
| 37 DDE, 4,4'- | 5.1E-09 | 4.8E-09 | 9.8E-10 | | | |
| 38 DDE, 4,4'- | 6.5E-09 | 6.2E-09 | 1.3E-09 | | | |
| 39 DDT, 4,4'- | 2.5E-08 | 2.4E-08 | 4.8E-09 | | | |
| 40 Dieldrin | 5.5E-09 | 5.2E-09 | 1.1E-09 | | | |
| 41 Endrin | 1.2E-08 | 1.2E-08 | 2.3E-09 | | | |
| 42 Gamma-BHC (Lin | 7.4E-09 | 7.0E-09 | 1.4E-09 | | | |
| 43 Heptachlor | 2.2E-09 | 2.1E-09 | 4.2E-10 | | | |
| 44 Heptachlor epe | 1.8E-09 | 1.7E-09 | 3.5E-10 | | | |
| 45 Methoxychlor | 1.4E-08 | NA | 2.6E-09 | | | |
| 46 PCB 1254 | 1.2E-09 | 6.6E-09 | 2.2E-10 | | | |
| 47 PCB 1260 | 2.6E-09 | 1.4E-08 | 4.9E-10 | | | |

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP5
LAST UPDATED: 09/30/94

CHRONIC RISK SUMMARY

FUTURE
COMM. WORKER 311

| | CHRONIC HAZARD QUOTIENT | | | | | |
|--|---|---|--|------------------|------------------|------------------|
| | SCENARIO 1 BLDG 311 INTERIOR RE ORAL | SCENARIO 2 BLDG 311 INTERIOR RE DERMAL | SCENARIO 3 BLDG 311 INDOOR AIR INHALATION | SCENARIO 4 0 | SCENARIO 5 0 | SCENARIO 6 0 |
| | (FROM WS1) 6E-04 | (FROM WS2) 6E-04 | (FROM WS3) NA | (FROM WS4) 0E+00 | (FROM WS5) 0E+00 | (FROM WS6) 0E+00 |
| | 1E-04 | 1E-05 | NA | | | |
| | 8E-05 | 7E-05 | 8E-03 | | | |
| | 9E-07 | 2E-05 | NA | | | |
| | 8E-04 | 3E-02 | NA | | | |
| | 8E-04 | 2E-03 | NA | | | |
| | NA | NA | NA | | | |
| | 6E-05 | 3E-04 | NA | | | |
| | 2E-04 | NA | NA | | | |
| | 8E-06 | 1E-04 | NA | | | |
| | 2E-04 | 1E-03 | NA | | | |
| | 1E-06 | 4E-06 | 3E-06 | | | |
| | 2E-04 | 2E-05 | NA | | | |
| | 4E-08 | NA | NA | | | |
| | 5E-08 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 6E-07 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 3E-07 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 5E-06 | NA | NA | | | |
| | 1E-07 | NA | NA | | | |
| | 8E-09 | NA | NA | | | |
| | 0E+00 | NA | NA | | | |
| | 5E-06 | NA | NA | | | |
| | 2E-06 | NA | NA | | | |
| | 1E-04 | NA | NA | | | |
| | 5E-06 | NA | NA | | | |
| | 1E-06 | NA | NA | | | |
| | 2E-05 | NA | NA | | | |
| | 1E-05 | 1E-05 | NA | | | |
| | 3E-05 | 3E-05 | NA | | | |
| | 7E-05 | 7E-05 | NA | | | |
| | NA | NA | NA | | | |
| | NA | NA | NA | | | |
| | 5E-05 | 5E-05 | NA | | | |
| | 1E-04 | 1E-04 | NA | | | |
| | 4E-05 | 4E-05 | NA | | | |
| | 2E-05 | 2E-05 | NA | | | |
| | 4E-06 | 4E-06 | NA | | | |
| | 1E-04 | 1E-04 | NA | | | |
| | 3E-06 | NA | NA | | | |
| | 2E-05 | 1E-04 | NA | | | |
| | 4E-05 | 2E-04 | NA | | | |

RANGE NAME: LSUM

SITE NAME: AHTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POPS
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
COMM. WORKER 311

LIFETIME RISK SUMMARY

FUTURE
COMM. WORKER 311

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | | LIFETIME EXCESS CANCER RISK | | | | | |
|----------------------|---|------------|------------|------------|------------|------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 0.5E-08 | 0.0E-09 | 1.6E-08 | 0.0E-09 | 0.0E-09 | 0.0E+00 | 2E-08 | 2E-09 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 1.4E-08 | 1.3E-09 | 2.7E-09 | 3.8E-07 | 0 | 0 | NA | NA | 4E-08 | NA | NA | NA |
| 3 Barium | 2.0E-04 | 1.9E-07 | 3.8E-07 | 3.0E-10 | 0 | 0 | 7E-09 | 1E-07 | NA | 3E-09 | 0 | 0 |
| 4 Beryllium | 1.0E-09 | 1.5E-10 | 3.0E-10 | 0 | 0 | 0 | NA | NA | 3E-07 | NA | 0 | 0 |
| 5 Cadmium (food) | 2.7E-07 | 2.5E-07 | 5.1E-08 | 0 | 0 | 0 | NA | NA | 1E-05 | NA | 0 | 0 |
| 6 Chromium (VI) | 1.4E-04 | 1.4E-07 | 2.8E-07 | 1.1E-06 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 7 Lead and Comp | 6.0E-04 | 3.4E-04 | 1.1E-04 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 8 Mercury (Inorg) | 6.9E-09 | 6.5E-10 | 1.3E-09 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 9 Nickel | 1.2E-04 | 2.3E-07 | 2.3E-07 | 0 | 0 | 0 | NA | NA | 2E-07 | NA | 0 | 0 |
| 10 Silver | 1.4E-08 | 1.3E-08 | 2.7E-09 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 11 Vanadium | 3.9E-07 | 3.7E-08 | 7.8E-08 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 12 Cyanide (free) | 1.1E-08 | 3.0E-08 | 2.0E-09 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 13 Nitrate, nitra | 5.8E-06 | 5.5E-07 | 1.1E-06 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 14 Acenaphthene | 8.4E-10 | NA | 1.6E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 15 Acenaphthylene | 6.8E-10 | NA | 1.3E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 17 Benzo (a) anth | 9.3E-09 | NA | 1.8E-09 | 0 | 0 | 0 | 7E-08 | 0E+00 | NA | NA | 0 | 0 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | 0E+00 | 0E+00 | NA | NA | 0 | 0 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | 0E+00 | 0E+00 | NA | NA | 0 | 0 |
| 20 Benzo (g,h,i) | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | 0E+00 | 0E+00 | NA | NA | 0 | 0 |
| 21 Benzo (h) fluo | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | 0E+00 | 0E+00 | NA | NA | 0 | 0 |
| 22 Chrysene | 4.5E-09 | NA | 8.7E-10 | 0 | 0 | 0 | 0E+00 | 0E+00 | NA | NA | 0 | 0 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | 3E-08 | NA | NA | NA | 0 | 0 |
| 24 Fluoranthene | 7.0E-08 | NA | 1.4E-08 | 0 | 0 | 0 | 0E+00 | NA | NA | NA | 0 | 0 |
| 25 Fluorene | 1.4E-09 | NA | 2.8E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 26 Methylenebiphenal | 1.2E-10 | NA | 2.3E-11 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 28 Phenanthrene | 5.3E-08 | NA | 1.0E-08 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 29 Pyrene | 2.0E-08 | NA | 3.9E-09 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 30 Bis (2-ethylhe | 8.5E-07 | NA | 1.6E-07 | 0 | 0 | 0 | 1E-08 | NA | NA | NA | 0 | 0 |
| 31 Butylbenzyl ph | 3.9E-07 | NA | 7.5E-08 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 32 Di-n-butyl ph | 3.6E-08 | NA | 6.9E-09 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 33 Di-n-octyl ph | 1.2E-07 | NA | 2.3E-08 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 34 Aldrin | 1.1E-10 | 1.1E-10 | 2.2E-11 | 0 | 0 | 0 | 2E-09 | 2E-09 | 4E-10 | NA | 0 | 0 |
| 35 Alpha-Endosulf | 5.1E-10 | 4.8E-10 | 9.8E-11 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 36 Beta-Endosulf | 1.3E-09 | 1.3E-09 | 2.6E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 37 DDT, 4,4'- | 1.8E-09 | 1.7E-09 | 3.5E-10 | 0 | 0 | 0 | 4E-10 | 4E-10 | NA | NA | 0 | 0 |
| 38 DDE, 4,4'- | 2.3E-09 | 2.2E-09 | 4.5E-10 | 0 | 0 | 0 | 8E-10 | 7E-10 | NA | NA | 0 | 0 |
| 39 DDT, 4,4'- | 8.9E-09 | 8.9E-09 | 1.7E-09 | 0 | 0 | 0 | 3E-09 | 3E-09 | 6E-10 | NA | 0 | 0 |
| 40 Dieldrin | 2.0E-09 | 1.9E-09 | 3.8E-10 | 0 | 0 | 0 | 3E-08 | 3E-08 | 6E-09 | NA | 0 | 0 |
| 41 Endrin | 4.4E-09 | 4.1E-09 | 8.4E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 42 Gamma-BHC (Lin | 2.6E-09 | 2.6E-09 | 5.1E-10 | 0 | 0 | 0 | 3E-09 | 3E-09 | 7E-10 | NA | 0 | 0 |
| 43 Heptachlor | 7.9E-10 | 7.4E-10 | 1.5E-10 | 0 | 0 | 0 | 6E-09 | 6E-09 | 1E-09 | NA | 0 | 0 |
| 44 Heptachlor epo | 6.4E-10 | 6.1E-10 | 1.2E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |
| 45 Methoxychlor | 4.9E-09 | NA | 9.4E-10 | 0 | 0 | 0 | 3E-09 | 2E-08 | NA | NA | 0 | 0 |
| 46 PCB 1254 | 4.2E-10 | 2.4E-09 | 8.0E-11 | 0 | 0 | 0 | 7E-09 | 4E-08 | NA | NA | 0 | 0 |
| 47 PCB 1260 | 9.1E-10 | 5.2E-09 | 1.8E-10 | 0 | 0 | 0 | NA | NA | NA | NA | 0 | 0 |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP6
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RENOV. WORKER 311

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/Lg/day) | | | | | |
|-------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.4E-07 | 9.9E-07 | (FROM WS3) | (FROM WS4) | (FROM WS3) | (FROM WS6) |
| 2 Arsenic | 4.0E-08 | 1.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 5.9E-08 | 2.2E-05 | | | | |
| 4 Beryllium | 4.4E-09 | 1.0E-08 | | | | |
| 5 Cadmium (food) | 7.9E-07 | 3.0E-04 | | | | |
| 6 Chromium (VI) | 4.1E-08 | 1.6E-05 | | | | |
| 7 Lead and Compo | 1.7E-05 | 6.7E-05 | | | | |
| 8 Mercury, inorg | 1.9E-08 | 7.7E-08 | | | | |
| 9 Nickel | 3.3E-08 | 1.3E-05 | | | | |
| 10 Silver | 3.9E-08 | 1.6E-07 | | | | |
| 11 Vanadium | 1.1E-08 | 4.4E-06 | | | | |
| 12 Cyanide (free) | 3.0E-08 | 1.2E-07 | | | | |
| 13 Nitrate, nitro | 1.4E-05 | 6.9E-05 | | | | |
| 14 Acenaphthene | 2.4E-09 | 9.4E-09 | | | | |
| 15 Acenaphthylene | 1.9E-09 | 7.6E-09 | | | | |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | | | | |
| 17 Benzo (a) anth | 2.6E-08 | 1.0E-07 | | | | |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | | | | |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | | | | |
| 20 Benzo (b,h,i) | 0.0E+00 | 0.0E+00 | | | | |
| 21 Benzo (k) fluo | 0.0E+00 | 0.0E+00 | | | | |
| 22 Chrysene | 1.3E-08 | 8.1E-08 | | | | |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | | | | |
| 24 Fluoranthene | 2.0E-07 | 7.9E-07 | | | | |
| 25 Fluorene | 3.8E-09 | 1.5E-06 | | | | |
| 26 Methylanthral | 3.4E-10 | 1.4E-09 | | | | |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | | | | |
| 28 Phenanthrene | 1.5E-07 | 5.9E-07 | | | | |
| 29 Pyrene | 5.7E-08 | 2.3E-07 | | | | |
| 30 Bis (2-ethylhe | 2.4E-06 | 9.5E-06 | | | | |
| 31 Butylbenzyl ph | 1.1E-06 | 4.4E-06 | | | | |
| 32 Di-n-butyl ph | 1.0E-07 | 4.0E-07 | | | | |
| 33 Di-n-octyl ph | 3.3E-07 | 1.3E-06 | | | | |
| 34 Aldrin | 3.2E-10 | 1.3E-09 | | | | |
| 35 Alpha-Endosulf | 1.4E-09 | 5.7E-09 | | | | |
| 36 Beta-Endosulf | 3.7E-09 | 1.5E-08 | | | | |
| 37 DDE, 4,4'- | 5.1E-09 | 2.0E-08 | | | | |
| 38 DDE, 4,4'- | 6.5E-09 | 2.6E-08 | | | | |
| 39 DDT, 4,4'- | 2.8E-08 | 1.0E-07 | | | | |
| 40 Dieldrin | 5.5E-09 | 2.2E-08 | | | | |
| 41 Endrin | 1.2E-08 | 4.9E-08 | | | | |
| 42 Gamma-BHC (Lin | 7.4E-09 | 3.0E-08 | | | | |
| 43 Heptachlor | 2.2E-09 | 8.8E-09 | | | | |
| 44 Heptachlor epo | 1.8E-09 | 7.2E-09 | | | | |
| 45 Methoxychlor | 1.4E-08 | 5.5E-08 | | | | |
| 46 PCB 1254 | 1.2E-09 | 4.7E-09 | | | | |
| 47 PCB 1260 | 2.6E-09 | 1.0E-08 | | | | |

SUBCHRONIC RISK SUMMARY

FUTURE
RENOV. WORKER 311

| | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------|----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| BLDG 311 | BLDG 311 | BLDG 311 | | | | |
| INTERIOR RE | 0 | 0 | 0 | 0 | 0 | 0 |
| IMHALATION | 0 | 0 | 0 | 0 | 0 | 0 |
| ORAL | 0 | 0 | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 6E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-04 | NA | NA | | | | |
| 8E-05 | 2E-02 | NA | | | | |
| 9E-07 | NA | NA | | | | |
| NA | NA | NA | | | | |
| 2E-04 | 1E+01 | NA | | | | |
| 6E-05 | NA | NA | | | | |
| 2E-04 | NA | NA | | | | |
| 8E-06 | NA | NA | | | | |
| 2E-04 | NA | NA | | | | |
| 1E-06 | 4E-04 | NA | | | | |
| 2E-04 | NA | NA | | | | |
| 4E-09 | NA | NA | | | | |
| 5E-08 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 6E-07 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 3E-07 | NA | NA | | | | |
| 5E-07 | NA | NA | | | | |
| 1E-08 | NA | NA | | | | |
| 8E-09 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 5E-07 | NA | NA | | | | |
| 2E-07 | NA | NA | | | | |
| 1E-04 | NA | NA | | | | |
| 5E-07 | NA | NA | | | | |
| 1E-07 | NA | NA | | | | |
| 2E-05 | NA | NA | | | | |
| 1E-05 | NA | NA | | | | |
| 7E-06 | NA | NA | | | | |
| 2E-05 | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| 5E-05 | NA | NA | | | | |
| 1E-04 | NA | NA | | | | |
| 4E-05 | NA | NA | | | | |
| 2E-06 | NA | NA | | | | |
| 4E-06 | NA | NA | | | | |
| 1E-04 | NA | NA | | | | |
| 3E-06 | NA | NA | | | | |
| 2E-05 | NA | NA | | | | |
| 4E-05 | NA | NA | | | | |

48 Dinitrotoluene 0.0E+00 0.0E+00
 49 MDX 1.7E-06 6.8E-06

0E+00 MA
 6E-04 MA

PATHWAY SUM (HI)
 POPULATION TOTAL

3E-03 1E+01 0E+00 0E+00 0E+00 0E+00
 1E+01

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP6
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
REMOV. WORKER 311

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|---------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 3.4E-09 | 1.4E-08 | (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS6) |
| 2 Arsenic | 5.7E-10 | 2.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 7.9E-08 | 3.1E-07 | 0 | 0 | 0 | 0 |
| 4 Beryllium | 6.3E-11 | 2.5E-10 | 0 | 0 | 0 | 0 |
| 5 Cadmium (feed) | 1.1E-08 | 4.3E-08 | 0 | 0 | 0 | 0 |
| 6 Chromium (VI) | 5.8E-08 | 2.3E-07 | 0 | 0 | 0 | 0 |
| 7 Lead and Comp | 2.4E-07 | 9.6E-07 | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 8 Mercury, Inorg | 2.8E-10 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 4.8E-08 | 1.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 5.6E-10 | 2.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.6E-08 | 6.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 4.2E-10 | 1.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.3E-07 | 9.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 3.4E-11 | 1.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 2.7E-11 | 1.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzene (a) anth | 3.7E-10 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzene (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzene (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzene (g,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzene (h) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 1.8E-10 | 7.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 2.8E-09 | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 5.5E-11 | 2.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylisophthal | 4.8E-12 | 1.9E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 2.1E-09 | 8.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 8.2E-10 | 3.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 9is (2-ethylhe | 3.4E-08 | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.6E-08 | 6.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 1.4E-09 | 5.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 4.7E-09 | 1.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 4.5E-12 | 1.8E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 2.0E-11 | 8.2E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 8.3E-11 | 3.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 7.3E-11 | 2.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 9.3E-11 | 3.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 3.6E-10 | 1.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 7.9E-11 | 3.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.7E-10 | 7.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.1E-10 | 4.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 3.1E-11 | 1.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 2.6E-11 | 1.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 2.0E-10 | 7.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 1.7E-11 | 6.7E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 3.6E-11 | 1.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
REMOV. WORKER 311

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|---------------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 1E-09 | 3E-08 | 0 | 0 | 0 | 0 |
| 2 Arsenic | 3E-10 | 2E-09 | 0 | 0 | 0 | 0 |
| 3 Barium | NA | NA | 0 | 0 | 0 | 0 |
| 4 Beryllium | NA | NA | 0 | 0 | 0 | 0 |
| 5 Cadmium (feed) | NA | NA | 0 | 0 | 0 | 0 |
| 6 Chromium (VI) | NA | NA | 0 | 0 | 0 | 0 |
| 7 Lead and Comp | NA | NA | 0 | 0 | 0 | 0 |
| 8 Mercury, Inorg | NA | NA | 0 | 0 | 0 | 0 |
| 9 Nickel | NA | NA | 0 | 0 | 0 | 0 |
| 10 Silver | NA | NA | 0 | 0 | 0 | 0 |
| 11 Vanadium | NA | NA | 0 | 0 | 0 | 0 |
| 12 Cyanide (free) | NA | NA | 0 | 0 | 0 | 0 |
| 13 Nitrate, nitra | NA | NA | 0 | 0 | 0 | 0 |
| 14 Acenaphthene | NA | NA | 0 | 0 | 0 | 0 |
| 15 Acenaphthylene | NA | NA | 0 | 0 | 0 | 0 |
| 16 Anthracene | NA | NA | 0 | 0 | 0 | 0 |
| 17 Benzene (a) anth | NA | NA | 0 | 0 | 0 | 0 |
| 18 Benzene (a) pyre | NA | NA | 0 | 0 | 0 | 0 |
| 19 Benzene (b) fluo | NA | NA | 0 | 0 | 0 | 0 |
| 20 Benzene (g,h,i) | NA | NA | 0 | 0 | 0 | 0 |
| 21 Benzene (h) fluo | NA | NA | 0 | 0 | 0 | 0 |
| 22 Chrysene | NA | NA | 0 | 0 | 0 | 0 |
| 23 Dibenz (a,h) a | NA | NA | 0 | 0 | 0 | 0 |
| 24 Fluoranthene | NA | NA | 0 | 0 | 0 | 0 |
| 25 Fluorene | NA | NA | 0 | 0 | 0 | 0 |
| 26 Methylisophthal | NA | NA | 0 | 0 | 0 | 0 |
| 27 Naphthalene | NA | NA | 0 | 0 | 0 | 0 |
| 28 Phenanthrene | NA | NA | 0 | 0 | 0 | 0 |
| 29 Pyrene | NA | NA | 0 | 0 | 0 | 0 |
| 30 9is (2-ethylhe | NA | NA | 0 | 0 | 0 | 0 |
| 31 Butylbenzyl ph | NA | NA | 0 | 0 | 0 | 0 |
| 32 Di-n-butyl ph | NA | NA | 0 | 0 | 0 | 0 |
| 33 Di-n-octyl ph | NA | NA | 0 | 0 | 0 | 0 |
| 34 Aldrin | NA | NA | 0 | 0 | 0 | 0 |
| 35 Alpha-Endosulf | NA | NA | 0 | 0 | 0 | 0 |
| 36 Beta-Endosulf | NA | NA | 0 | 0 | 0 | 0 |
| 37 DDT, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 38 DDE, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 39 DDT, 4,4'- | NA | NA | 0 | 0 | 0 | 0 |
| 40 Dieldrin | NA | NA | 0 | 0 | 0 | 0 |
| 41 Endrin | NA | NA | 0 | 0 | 0 | 0 |
| 42 Gamma-BHC (Lin | NA | NA | 0 | 0 | 0 | 0 |
| 43 Heptachlor | NA | NA | 0 | 0 | 0 | 0 |
| 44 Heptachlor epo | NA | NA | 0 | 0 | 0 | 0 |
| 45 Methoxychlor | NA | NA | 0 | 0 | 0 | 0 |
| 46 PCB 1254 | NA | NA | 0 | 0 | 0 | 0 |
| 47 PCB 1260 | NA | NA | 0 | 0 | 0 | 0 |

| | 0E+00 | 0E+00 | 0E+00 | NA |
|------------------------------|-------|---------|---------|-------|
| | 0E+00 | 2.4E-08 | 9.7E-08 | NA |
| 48 Dinitrotoluene | | | | |
| 49 NOX | | | | |
| TOTAL PATHWAY CANCER RISK | 1E-06 | 0E+00 | 0E+00 | 1E-05 |
| POPULATION TOTAL EXCESS RISK | 1E-05 | | | |
| | | | | 0E+00 |
| | | | | 0E+00 |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP7
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 312

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 2.0E-05 | 5.7E-08 | 5.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 7.8E-04 | 2.2E-08 | 2.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 3.3E-04 | 9.5E-07 | 9.8E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 1.2E-04 | 3.4E-07 | 3.5E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 9.0E-04 | 2.6E-05 | 2.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 3.4E-04 | 9.9E-07 | 1.0E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 2.3E-03 | 4.0E-05 | 6.9E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.0E-06 | 5.1E-09 | 5.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Manganese | 3.3E-04 | NA | 1.0E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.8E-05 | 9.3E-07 | 9.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 2.7E-05 | 0.0E+00 | 8.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 1.4E-04 | 1.2E-05 | 4.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitro | 5.6E-04 | 1.6E-06 | 1.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 1.4E-07 | NA | 4.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 1.6E-07 | NA | 4.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 1.9E-07 | NA | 5.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 4.7E-07 | NA | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 7.8E-08 | NA | 2.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 6.9E-07 | NA | 2.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthral | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 1.4E-06 | NA | 4.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.3E-06 | NA | 4.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 5.1E-07 | NA | 1.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bts (2-ethylhe | 2.5E-04 | NA | 7.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.9E-04 | NA | 5.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 6.3E-05 | NA | 1.9E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 3.1E-05 | NA | 9.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.5E-07 | 1.0E-08 | 1.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 9.9E-08 | 2.9E-09 | 3.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 8.3E-08 | 1.6E-09 | 1.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 4.6E-07 | 1.4E-08 | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 1.6E-07 | 4.6E-09 | 4.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 3.6E-07 | 1.0E-08 | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 2.2E-08 | 6.5E-10 | 6.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 1.1E-06 | NA | 3.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1234 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 4.8E-06 | 8.5E-07 | 1.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT 312

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 5E-02 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 3E-02 | 9E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 5E-03 | 1E-04 | 7E-03 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 2E-02 | 1E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 2E-02 | 1E-03 | 9E+00 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 6E-03 | 9E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 4E-03 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 7E-03 | 6E-04 | 1E-02 | 0E+00 | 0E+00 | 0E+00 |
| 9 Manganese | 6E-03 | 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 4E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitro | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,i) | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bts (2-ethylhe | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1234 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: CSUM

SITE NAME: AMIL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP7
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 312

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|----------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 1.2E-05 | 8.0E-08 | 3.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 4.7E-04 | 1.9E-08 | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 2.0E-04 | 8.2E-07 | 6.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 7.2E-05 | 2.9E-07 | 2.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (feed) | 8.6E-04 | 2.3E-05 | 1.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 2.1E-04 | 8.6E-07 | 6.4E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 1.4E-03 | 3.9E-05 | 4.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 1.1E-04 | 4.5E-09 | 3.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 2.1E-04 | NA | 6.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.1E-05 | 4.6E-07 | 3.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.7E-05 | 8.9E-08 | 5.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 8.8E-05 | 1.1E-05 | 2.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 3.5E-04 | 1.4E-04 | 1.1E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 0.0E+00 | NA | 2.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 2.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 9.7E-08 | NA | 3.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 1.2E-07 | NA | 8.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 2.9E-07 | NA | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 4.9E-08 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 4.3E-07 | NA | 1.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebiphenyl | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.5E-07 | NA | 2.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 8.4E-07 | NA | 2.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 3.2E-07 | NA | 9.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylh) | 1.6E-04 | NA | 4.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.2E-04 | NA | 3.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 3.9E-05 | NA | 1.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 1.9E-05 | NA | 5.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 2.2E-07 | 0.9E-09 | 6.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 8.2E-06 | 2.9E-09 | 1.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 3.3E-04 | 1.4E-09 | 1.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 2.9E-07 | 1.2E-08 | 8.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 9.9E-08 | 4.0E-09 | 3.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 2.2E-07 | 9.1E-09 | 6.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 1.4E-08 | 5.7E-10 | 4.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 6.6E-07 | NA | 2.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 3.0E-04 | 7.4E-07 | 9.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

CHRONIC RISK SUMMARY

FUTURE
RESIDENT 312

| CHRONIC HAZARD QUOTIENT | | | | | |
|---|---|--|--------------------------|--------------------------|--------------------------|
| SCENARIO 1 BLDG 312 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 3E-02 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-02 | 7E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3E-03 | 1E-04 | 4E-02 | 0E+00 | 0E+00 | 0E+00 |
| 1E-02 | 1E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6E-01 | 9E-01 | NA | 0E+00 | 0E+00 | 0E+00 |
| 4E-02 | 3E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 4E-03 | 7E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-02 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-03 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 4E-03 | 5E-04 | 1E-03 | 0E+00 | 0E+00 | 0E+00 |
| 4E-03 | 1E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 7E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 3E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 6E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 4E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 7E-03 | 3E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-03 | 5E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 6E-04 | 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2E-03 | 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7E-04 | 3E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-03 | 4E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 4E-02 | 1E-02 | NA | 0E+00 | 0E+00 | 0E+00 |

| | | | | | | | | | | |
|----------------------------|------------------|---------|---------|----------------|----------------|----------|-------|-------|-------|-------|
| 49 Dinitroethene 49 RDX | 1.9E-07 | 7.6E-09 | 8.6E-09 | 9E-09 8E-03 | 4E-06 3E-04 | NA NA | 4E-02 | 0E+00 | 0E+00 | 0E+00 |
| | 2.3E-05 | 9.4E-07 | 6.9E-07 | | | | | | | |
| | PATHWAY SUM (MI) | | | 8E-01 | 9E-01 | | | | | |
| | POPULATION TOTAL | | | 2E+00 | | | | | | |

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP7
LAST UPDATED: 09/30/94

LIFETIME RISK SUMMARY

FUTURE
RESIDENT 312

| LIFETIME EXCESS CANCER RISK | | | | | | |
|-----------------------------|-------------|------------|------------|------------|------------|--|
| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | |
| BLDG 312 | BLDG 312 | BLDG 312 | | | | |
| INTERIOR RE | INTERIOR RE | INDOOR AIR | | | | |
| DERMAL | DERMAL | INHALATION | | | | |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) | |
| NA | NA | NA | 0E+00 | 0E+00 | 0E+00 | |
| 1E-06 | 1E-08 | 4E-07 | | | | |
| NA | NA | NA | | | | |
| 5E-05 | 1E-04 | 3E-06 | | | | |
| NA | NA | 2E-05 | | | | |
| NA | NA | 5E-05 | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | 9E-07 | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| 1E-07 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| 1E-07 | NA | NA | | | | |
| NA | NA | NA | | | | |
| 4E-07 | NA | NA | | | | |
| 6E-08 | NA | NA | | | | |
| 0E+00 | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| 4E-07 | NA | NA | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| 6E-07 | 6E-08 | 2E-08 | | | | |
| NA | NA | NA | | | | |
| NA | NA | NA | | | | |
| 1E-09 | 1E-10 | NA | | | | |
| 0E+00 | 0E+00 | NA | | | | |
| 2E-08 | 2E-09 | 8E-10 | | | | |
| 3E-07 | 3E-08 | 8E-09 | | | | |
| NA | NA | NA | | | | |
| 0E+00 | 0E+00 | NA | | | | |
| 0E+00 | 0E+00 | 0E+00 | | | | |
| 2E-08 | 2E-09 | 8E-10 | | | | |
| NA | NA | NA | | | | |
| 0E+00 | 0E+00 | NA | | | | |
| 4E-06 | 2E-06 | NA | | | | |

| | 3.2E-08 | 3.0E-09 | 9.4E-10 | | 2E-08 | 2E-09 | |
|-------------------|---------|---------|---------|------------------|-------|-------|-------|
| 48 Dinitrotoluene | 3.9E-04 | 3.7E-07 | 1.2E-07 | | 4E-07 | 4E-08 | NA |
| 49 RDX | | | | | | | NA |
| | | | | TOTAL PATHWAY | 6E-05 | 1E-04 | 7E-05 |
| | | | | CANCER RISK | | | 0E+00 |
| | | | | POPULATION TOTAL | 2E-04 | | 0E+00 |
| | | | | EXCESS RISK | | | 0E+00 |

| | |
|------------------------------|--|
| TOTAL PATHWAY CANCER RISK | |
| <hr/> | |
| POPULATION TOTAL EXCESS RISK | |

RANGE NAME: CSUM

SITE NAME: ANTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POPB
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
COMM. WORKER 312

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|---------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 2.1E-07 | 2.0E-08 | 4.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 9.1E-08 | 7.7E-09 | 1.6E-08 | | | |
| 3 Barium | 3.8E-06 | 3.3E-07 | 6.7E-07 | | | |
| 4 Beryllium | 1.2E-06 | 1.2E-07 | 2.4E-07 | | | |
| 5 Cadmium (food) | 9.8E-06 | 9.1E-06 | 1.8E-06 | | | |
| 6 Chromium (VI) | 3.8E-06 | 3.4E-07 | 7.0E-07 | | | |
| 7 Lead and Comp | 2.5E-05 | 1.4E-05 | 4.7E-06 | | | |
| 8 Mercury, inorg | 1.9E-06 | 1.8E-09 | 3.6E-09 | | | |
| 9 Methyl | 3.8E-06 | NA | 6.8E-07 | | | |
| 10 Silver | 2.0E-07 | 1.8E-07 | 3.8E-08 | | | |
| 11 Vanadium | 2.9E-07 | 2.8E-08 | 5.6E-08 | | | |
| 12 Cyanide (free) | 1.5E-06 | 4.3E-06 | 2.9E-07 | | | |
| 13 Nitrate, nitra | 6.0E-06 | 5.7E-07 | 1.2E-06 | | | |
| 14 Acetanaphthene | 0.0E+00 | NA | 0.0E+00 | | | |
| 15 Acetanaphthylene | 0.0E+00 | NA | 0.0E+00 | | | |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | | | |
| 17 Benzo (a) anth | 1.5E-09 | 7.4E-09 | 2.9E-10 | | | |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | | | |
| 19 Benzo (b) fluo | 1.7E-09 | NA | 3.2E-10 | | | |
| 20 Benzo (b,h,l) | 2.1E-09 | NA | 4.0E-10 | | | |
| 21 Benzo (k) fluo | 9.0E-09 | NA | 9.6E-10 | | | |
| 22 Chrysene | 8.3E-10 | NA | 1.6E-10 | | | |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | | | |
| 24 Fluoranthene | 7.4E-09 | NA | 1.4E-09 | | | |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | | | |
| 26 Methylenebthal | 0.0E+00 | NA | 0.0E+00 | | | |
| 27 Naphthalene | 1.5E-08 | NA | 2.8E-09 | | | |
| 28 Phenanthrene | 1.4E-08 | NA | 2.8E-09 | | | |
| 29 Pyrene | 5.5E-09 | NA | 1.1E-09 | | | |
| 30 Bis (2-ethylhe | 2.7E-06 | NA | 5.2E-07 | | | |
| 31 Butylbenzyl ph | 2.1E-06 | NA | 4.0E-07 | | | |
| 32 Di-n-butyl ph | 6.7E-07 | NA | 1.3E-07 | | | |
| 33 Di-n-octyl ph | 3.3E-07 | NA | 6.4E-08 | | | |
| 34 Aldrin | 3.7E-09 | 3.5E-09 | 7.1E-10 | | | |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | | | |
| 36 Beta-Endosulf | 1.1E-09 | 1.0E-09 | 2.0E-10 | | | |
| 37 DDT, 4,4'- | 8.7E-10 | 6.4E-10 | 1.1E-10 | | | |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | | | |
| 39 DDT, 4,4'- | 9.0E-09 | 4.7E-09 | 9.5E-10 | | | |
| 40 Dieldrin | 1.7E-09 | 1.6E-09 | 3.3E-10 | | | |
| 41 Endrin | 3.8E-09 | 3.6E-09 | 7.3E-10 | | | |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | | | |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | | | |
| 44 Heptachlor epo | 2.4E-10 | 2.3E-10 | 4.6E-11 | | | |
| 45 Methoxychlor | 1.1E-08 | NA | 2.2E-09 | | | |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | | | |
| 47 PCB 1260 | 5.2E-08 | 2.9E-07 | 1.0E-08 | | | |

CHRONIC RISK SUMMARY

FUTURE
COMM. WORKER 312

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|---------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL | SCENARIO 3 BLDG 312 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 5E-04 | 5E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 3E-04 | 3E-05 | NA | | | |
| 3 Barium | 5E-05 | 5E-05 | 5E-03 | | | |
| 4 Beryllium | 2E-04 | 5E-05 | NA | | | |
| 5 Cadmium (food) | 1E-02 | 4E-01 | NA | | | |
| 6 Chromium (VI) | 7E-04 | 1E-03 | NA | | | |
| 7 Lead and Comp | NA | NA | NA | | | |
| 8 Mercury, inorg | 6E-05 | 3E-04 | NA | | | |
| 9 Methyl | 2E-04 | NA | NA | | | |
| 10 Silver | 4E-05 | 7E-04 | NA | | | |
| 11 Vanadium | 4E-05 | 4E-04 | NA | | | |
| 12 Cyanide (free) | 8E-05 | 2E-04 | 1E-04 | | | |
| 13 Nitrate, nitra | 6E-05 | 6E-06 | NA | | | |
| 14 Acetanaphthene | 0E+00 | NA | NA | | | |
| 15 Acetanaphthylene | 0E+00 | NA | NA | | | |
| 16 Anthracene | 0E+00 | NA | NA | | | |
| 17 Benzo (a) anth | 4E-08 | NA | NA | | | |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | | | |
| 19 Benzo (b) fluo | 4E-08 | NA | NA | | | |
| 20 Benzo (b,h,l) | 5E-08 | NA | NA | | | |
| 21 Benzo (k) fluo | 1E-07 | NA | NA | | | |
| 22 Chrysene | 2E-08 | NA | NA | | | |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | | | |
| 24 Fluoranthene | 2E-07 | NA | NA | | | |
| 25 Fluorene | 0E+00 | NA | NA | | | |
| 26 Methylenebthal | 0E+00 | NA | NA | | | |
| 27 Naphthalene | 4E-07 | NA | NA | | | |
| 28 Phenanthrene | 5E-07 | NA | NA | | | |
| 29 Pyrene | 2E-07 | NA | NA | | | |
| 30 Bis (2-ethylhe | 1E-04 | NA | NA | | | |
| 31 Butylbenzyl ph | 1E-05 | NA | NA | | | |
| 32 Di-n-butyl ph | 7E-06 | NA | NA | | | |
| 33 Di-n-octyl ph | 2E-05 | NA | NA | | | |
| 34 Aldrin | 1E-04 | 1E-04 | NA | | | |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | NA | | | |
| 36 Beta-Endosulf | 2E-05 | 2E-05 | NA | | | |
| 37 DDT, 4,4'- | NA | NA | NA | | | |
| 38 DDE, 4,4'- | NA | NA | NA | | | |
| 39 DDT, 4,4'- | 1E-05 | 9E-06 | NA | | | |
| 40 Dieldrin | 3E-05 | 3E-05 | NA | | | |
| 41 Endrin | 1E-05 | 1E-05 | NA | | | |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | NA | | | |
| 43 Heptachlor | 0E+00 | 0E+00 | NA | | | |
| 44 Heptachlor epo | 2E-05 | 2E-05 | NA | | | |
| 45 Methoxychlor | 2E-06 | NA | NA | | | |
| 46 PCB 1254 | 0E+00 | 0E+00 | NA | | | |
| 47 PCB 1260 | 7E-04 | 4E-03 | NA | | | |

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POPB
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
COMM. WORKER 312

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 312 INDOOR AIR IMMULATION (FROM WS3) | SCENARIO 4 BLDG 312 INDOOR AIR IMMULATION (FROM WS4) | SCENARIO 5 BLDG 312 INDOOR AIR IMMULATION (FROM WS5) | SCENARIO 6 BLDG 312 INDOOR AIR IMMULATION (FROM WS6) |
| 1 Antimony | 7.8E-08 | 7.1E-09 | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.9E-08 | 2.8E-09 | 5.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.2E-06 | 1.2E-07 | 2.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 4.4E-07 | 4.2E-08 | 8.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 3.4E-06 | 3.2E-06 | 6.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.3E-06 | 1.2E-07 | 2.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 6.8E-06 | 5.0E-06 | 1.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 6.7E-09 | 6.4E-10 | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 1.3E-06 | MA | 2.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 7.0E-08 | 6.6E-08 | 1.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.0E-07 | 9.9E-09 | 2.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 5.4E-07 | 1.5E-06 | 1.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.2E-06 | 2.0E-07 | 4.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 5.4E-10 | MA | 1.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 6.0E-10 | MA | 1.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,l) | 7.4E-10 | MA | 1.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.8E-09 | MA | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 3.0E-10 | MA | 5.7E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 2.6E-09 | MA | 5.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylnaphthal | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 5.2E-09 | MA | 1.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 5.1E-09 | MA | 9.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.0E-09 | MA | 3.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 9.7E-07 | MA | 1.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 7.4E-07 | MA | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 2.4E-07 | MA | 4.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 1.2E-07 | MA | 2.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.3E-09 | 1.3E-09 | 2.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 3.8E-10 | 3.6E-10 | 7.3E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 2.0E-10 | 1.9E-10 | 3.9E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 1.8E-09 | 1.7E-09 | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 6.1E-10 | 5.8E-10 | 1.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.4E-09 | 1.3E-09 | 2.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 8.5E-11 | 8.1E-11 | 1.6E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 4.1E-09 | MA | 7.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 1.9E-08 | 1.1E-07 | 3.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
COMM. WORKER 312

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 312 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 312 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 312 INDOOR AIR IMMULATION (FROM WS3) | SCENARIO 4 BLDG 312 INDOOR AIR IMMULATION (FROM WS4) | SCENARIO 5 BLDG 312 INDOOR AIR IMMULATION (FROM WS5) | SCENARIO 6 BLDG 312 INDOOR AIR IMMULATION (FROM WS6) |
| 1 Antimony | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 5E-08 | 5E-09 | 8E-08 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 2E-06 | 4E-05 | 7E-07 | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | NA | NA | 4E-06 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | NA | NA | 1E-05 | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Nickel | NA | NA | 2E-07 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylnaphthal | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (lin | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP9
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
REMOV. WORKER 312

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|---------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.1E-07 | 0.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 8.1E-06 | 3.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 3.5E-04 | 1.4E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 1.2E-04 | 4.9E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 9.8E-04 | 3.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 3.6E-04 | 1.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Compo | 2.5E-05 | 9.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.9E-06 | 7.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 3.6E-04 | 1.4E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-07 | 7.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 2.9E-07 | 1.2E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 1.5E-06 | 6.1E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 6.0E-04 | 2.4E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 1.5E-09 | 6.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) Pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 1.7E-09 | 6.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 2.1E-09 | 8.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 8.0E-09 | 2.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 8.3E-10 | 3.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 7.4E-09 | 2.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylinsophthal | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 1.5E-08 | 5.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.4E-08 | 5.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 5.8E-09 | 2.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 2.7E-04 | 1.1E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 2.1E-04 | 8.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 6.7E-07 | 2.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 3.3E-07 | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.7E-09 | 1.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 1.1E-09 | 4.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 8.7E-10 | 2.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 5.0E-09 | 2.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 1.7E-09 | 6.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 3.8E-09 | 1.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 2.4E-10 | 9.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Heptachlor | 1.1E-08 | 4.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1284 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 5.2E-08 | 2.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
REMOV. WORKER 312

| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
|-------------|------------|------------|------------|------------|------------|
| | | | | | |
| BLDG 312 | BLDG 312 | 0 | 0 | 0 | 0 |
| INTERIOR RE | INDOOR AIR | 0 | 0 | 0 | 0 |
| ORAL | INHALATION | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 5E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5E-05 | 1E-02 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-04 | 1E+01 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8E-05 | 2E-02 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-07 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4E-07 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-08 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-06 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 7E-07 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5E-06 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 1E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2E-06 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 7E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |

40 Dinitrotoluene 3.2E-09 1.3E-06
 49 NOx 4.0E-07 1.8E-06

2E-06 NA
 1E-04 NA

PATHWAY SUM (HT)
 POPULATION TOTAL

3E-03 1E+01 0E+00 0E+00 0E+00 0E+00
 1E+01

SITE NAME: AMTL
OPERABLE UNIT: ZONE 2 BLDGS
FILE NAME: POP9
LAST UPDATED: 09/30/94

LIFETIME RISK SUMMARY

FUTURE
REMOV. WORKER 312

| LIFETIME EXCESS CANCER RISK | | | | | | |
|-----------------------------|------------|------------|------------|------------|------------|---|
| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | |
| BLDG 312 | BLDG 312 | 0 | 0 | 0 | 0 | 0 |
| INTERIOR RE | INDOOR AIR | 0 | 0 | 0 | 0 | 0 |
| ORAL | INHALATION | 0 | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) | |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 | |
| 2E-09 | 7E-08 | | | | | |
| NA | NA | | | | | |
| 8E-09 | 6E-07 | | | | | |
| NA | 3E-08 | | | | | |
| NA | 9E-08 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | 2E-07 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 2E-10 | NA | | | | | |
| 0E+00 | NA | | | | | |
| 2E-10 | NA | | | | | |
| NA | NA | | | | | |
| 9E-10 | NA | | | | | |
| 9E-11 | NA | | | | | |
| 0E+00 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 5E-10 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 9E-10 | 4E-09 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 2E-12 | NA | | | | | |
| 0E+00 | NA | | | | | |
| 2E-11 | 1E-10 | | | | | |
| 4E-10 | 2E-09 | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| 3E-11 | 1E-10 | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 6E-09 | NA | | | | | |

| | | | | | | | | |
|-----------------------------|------------------------------|--------------------|----------------|----------|-------|-------|-------|-------|
| 48 Dinitrotoluene 49 MDX | 4.8E-11 5.7E-09 | 1.0E-10 2.3E-08 | 3E-11 6E-10 | NA NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| | TOTAL PATHWAY CANCER RISK | | 9E-08 | 1E-05 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| | POPULATION TOTAL EXCESS RISK | | 1E-05 | | | | | |

RANGE NAME: POPSUM

SITE NAME: AHTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

EXPOSURE SCENARIOS EVALUATED
(GROUPED BY POPULATION)

| POPULATION 1 | | EXPOSED POPULATION | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | WORKSHEET |
|--------------|--------|-----------------------|----------------------|--------------------|----------------------|--------------------------------|-----------|
| LAND USE | FUTURE | | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIFs HIFC HIF1 NAME | |
| 1 | 2 | RESIDENT 37 | BLDG 37 | INTERIOR RESID | ORAL | 9.13E-05 8.71E-05 9.72E-06 WS1 | WS1 |
| 2 | 3 | | BLDG 37 | INTERIOR RESID | DERMAL | 2.87E-04 2.32E-04 9.19E-05 WS2 | WS2 |
| 3 | 4 | | BLDG 37 | INDOOR AIR | INHALATION | 2.74E-01 1.71E-01 2.91E-02 WS3 | WS3 |
| 4 | 5 | | | | | | WS4 |
| 5 | 6 | | | | | | WS5 |
| 6 | | | | | | | WS6 |
| POPULATION 2 | | EXPOSED POPULATION | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | WORKSHEET |
| LAND USE | FUTURE | | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIFs HIFC HIF1 NAME | |
| 1 | 2 | COMM. WORKER 37 | BLDG 37 | INTERIOR RESID | ORAL | 9.78E-07 3.49E-07 WS1 | WS1 |
| 2 | 3 | | BLDG 37 | INTERIOR RESID | DERMAL | 9.26E-05 3.31E-05 WS2 | WS2 |
| 3 | 4 | | BLDG 37 | INDOOR AIR | INHALATION | 1.88E-02 6.71E-03 WS3 | WS3 |
| 4 | 5 | | | | | | WS4 |
| 5 | 6 | | | | | | WS5 |
| 6 | | | | | | | WS6 |
| POPULATION 3 | | EXPOSED POPULATION | NO. OF SCENARIOS - 2 | | HUMAN INTAKE FACTORS | | WORKSHEET |
| LAND USE | FUTURE | | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIFs HIFC HIF1 NAME | |
| 1 | 2 | RENOV. WORKER 37 | BLDG 37 | INTERIOR RESID | ORAL | 9.78E-07 1.40E-08 WS1 | WS1 |
| 2 | 3 | | BLDG 37 | INDOOR AIR REN | INHALATION | 3.91E-02 5.59E-04 WS2 | WS2 |
| 3 | 4 | | | | | | WS3 |
| 4 | 5 | | | | | | WS4 |
| 5 | 6 | | | | | | WS5 |
| 6 | | | | | | | WS6 |
| POPULATION 4 | | EXPOSED POPULATION | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | WORKSHEET |
| LAND USE | FUTURE | | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIFs HIFC HIF1 NAME | |
| 1 | 2 | RESIDENT 313 | BLDG 313 | INTERIOR RESID | ORAL | 9.13E-05 5.71E-05 9.72E-06 WS1 | WS1 |
| 2 | 3 | | BLDG 313 | INTERIOR RESID | DERMAL | 2.87E-04 2.32E-04 9.19E-05 WS2 | WS2 |
| 3 | 4 | | BLDG 313 | INDOOR AIR | INHALATION | 2.74E-01 1.71E-01 2.91E-02 WS3 | WS3 |
| 4 | 5 | | | | | | WS4 |
| 5 | 6 | | | | | | WS5 |
| 6 | | | | | | | WS6 |
| POPULATION 5 | | EXPOSED POPULATION | NO. OF SCENARIOS - 3 | | HUMAN INTAKE FACTORS | | WORKSHEET |
| LAND USE | FUTURE | | EXPOSURE POINT | EXPOSURE MEDIUM | EXPOSURE ROUTE | HIFs HIFC HIF1 NAME | |
| 1 | 2 | COMM. WORKER 313 | BLDG 313 | INTERIOR RESID | ORAL | 9.78E-07 3.49E-07 WS1 | WS1 |
| 2 | 3 | | BLDG 313 | INTERIOR RESID | DERMAL | 9.26E-05 3.31E-05 WS2 | WS2 |
| 3 | 4 | | BLDG 313 | INDOOR AIR | INHALATION | 1.88E-02 6.71E-03 WS3 | WS3 |
| 4 | 5 | | | | | | WS4 |
| 5 | 6 | | | | | | WS5 |
| 6 | | | | | | | WS6 |

| POPULATION & LAND USE | | EXPOSED POPULATION REMOV. WORKER 313 | NO. OF SCENARIOS - 2 | | EXPOSURE MEDIUM INTERIOR RESID INDOOR AIR REN | EXPOSURE ROUTE ORAL INHALATION | HUMAN INTAKE FACTORS | | | RANGE NAME |
|-----------------------|--------|---|--|---|---|--------------------------------------|----------------------|------|------|------------|
| 1 | 2 | | EXPOSURE POINT BLDG 313 BLDG 313 | EXPOSURE MEDIUM INTERIOR RESID INDOOR AIR REN | | | HIF ₁ | HIFC | HIF1 | |
| 1 | FUTURE | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |
| 6 | | | | | | | | | | |
| 7 | | | | | | | | | | |
| 8 | | | | | | | | | | |

RANGE NAME: EPCI

EXPOSURE POINT: BLDG 37

EXPOSURE POINT CONCENTRATIONS

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| CHEMICAL NAME | MEDIUM 1 INTERIOR RESIDUE | | | MEDIUM 2 INDOOR AIR | | | MEDIUM 3 INDOOR AIR REN | | | MEDIUM 4 | | | MEDIUM 5 | | | 0 |
|--------------------|---------------------------|---------|---------|---------------------|---------|---------|-------------------------|---------|---------|----------|---------|---------|----------|---------|---------|---|
| | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | Cs | Cc | Cl | |
| 1 Antimony | 2.0E-02 | 2.0E-02 | 2.0E-02 | 125 | 2.0E-07 | 12L | 135 | 2.0E-06 | 13L | 145 | 2.0E-06 | 14L | 155 | 2.0E-06 | 15L | 0 |
| 2 Arsenic | 2.2E-01 | 2.2E-01 | 2.2E-01 | 2.2E-06 | 2.2E-06 | 2.2E-07 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 2.2E-05 | 0 |
| 3 Barium | 1.2E+01 | 1.2E+01 | 1.2E+01 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 3.1E-08 | 0 |
| 4 Beryllium | 3.1E-03 | 3.1E-03 | 3.1E-03 | 4.3E-06 | 4.3E-06 | 4.3E-06 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 4.3E-05 | 0 |
| 5 Cadmium (food) | 4.3E-01 | 4.3E-01 | 4.3E-01 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 1.5E-04 | 0 |
| 6 Chromium (VI) | 1.5E+01 | 1.5E+01 | 1.5E+01 | 2.2E-04 | 2.2E-04 | 2.2E-04 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 2.2E-03 | 0 |
| 7 Lead and Comp | 2.2E+01 | 2.2E+01 | 2.2E+01 | 8.0E-07 | 8.0E-07 | 8.0E-07 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 8.0E-06 | 0 |
| 8 Mercury, inorg | 8.0E-02 | 8.0E-02 | 8.0E-02 | 0.3E-05 | 0.3E-05 | 0.3E-05 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0.3E-04 | 0 |
| 9 Nickel | 0.3E+00 | 0.3E+00 | 0.3E+00 | 2.1E-06 | 2.1E-06 | 2.1E-06 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 2.1E-05 | 0 |
| 10 Silver | 2.1E-01 | 2.1E-01 | 2.1E-01 | 7.7E-06 | 7.7E-06 | 7.7E-06 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 7.7E-05 | 0 |
| 11 Vanadium | 7.7E-01 | 7.7E-01 | 7.7E-01 | 7.0E-07 | 7.0E-07 | 7.0E-07 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 7.0E-06 | 0 |
| 12 Cyanide (free) | 7.0E-02 | 7.0E-02 | 7.0E-02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 13 Nitrate, nitra | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 5.4E-08 | 5.4E-08 | 5.4E-08 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 5.4E-07 | 0 |
| 17 Benzo (a) anth | 5.4E-03 | 5.4E-03 | 5.4E-03 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 20 Benzo (b,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.6E-03 | 4.6E-03 | 4.6E-03 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 4.6E-02 | 0 |
| 21 Benzo (k) fluo | 4.6E-03 | 4.6E-03 | 4.6E-03 | 7.2E-03 | 7.2E-03 | 7.2E-03 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 7.2E-02 | 0 |
| 22 Chrysene | 7.2E-03 | 7.2E-03 | 7.2E-03 | 5.2E-07 | 5.2E-07 | 5.2E-07 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 5.2E-06 | 0 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.7E-07 | 2.7E-07 | 2.7E-07 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 2.7E-06 | 0 |
| 24 Fluoranthene | 5.2E-02 | 5.2E-02 | 5.2E-02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 26 Methylanthral | 2.7E-02 | 2.7E-02 | 2.7E-02 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 1.7E-05 | 0 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 3.2E-07 | 3.2E-07 | 3.2E-07 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 3.2E-06 | 0 |
| 28 Phenanthrene | 1.7E-01 | 1.7E-01 | 1.7E-01 | 1.9E-05 | 1.9E-05 | 1.9E-05 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 0 |
| 29 Pyrene | 3.2E-02 | 3.2E-02 | 3.2E-02 | 1.9E-04 | 1.9E-04 | 1.9E-04 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 1.9E-03 | 0 |
| 30 Bis (2-ethylhe | 1.9E+00 | 1.9E+00 | 1.9E+00 | 1.4E-06 | 1.4E-06 | 1.4E-06 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 0 |
| 31 Butylbenzyl ph | 1.9E-01 | 1.9E-01 | 1.9E-01 | 9.1E-07 | 9.1E-07 | 9.1E-07 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 9.1E-06 | 0 |
| 32 Di-n-butyl pht | 1.4E-01 | 1.4E-01 | 1.4E-01 | 3.6E-06 | 3.6E-06 | 3.6E-06 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 3.6E-05 | 0 |
| 33 Di-n-octyl pht | 9.1E-02 | 9.1E-02 | 9.1E-02 | 1.0E-06 | 1.0E-06 | 1.0E-06 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 0 |
| 34 Aldrin | 3.6E-03 | 3.6E-03 | 3.6E-03 | 4.7E-08 | 4.7E-08 | 4.7E-08 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 4.7E-07 | 0 |
| 35 Alpha-Endosulf | 1.0E-03 | 1.0E-03 | 1.0E-03 | 6.0E-06 | 6.0E-06 | 6.0E-06 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 6.0E-05 | 0 |
| 36 Beta-Endosulf | 1.7E-03 | 1.7E-03 | 1.7E-03 | 1.7E-07 | 1.7E-07 | 1.7E-07 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 1.7E-06 | 0 |
| 37 DDT, 4,4'- | 4.7E-03 | 4.7E-03 | 4.7E-03 | 4.6E-06 | 4.6E-06 | 4.6E-06 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 4.6E-05 | 0 |
| 38 DDE, 4,4'- | 6.0E-03 | 6.0E-03 | 6.0E-03 | 1.1E-03 | 1.1E-03 | 1.1E-03 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 1.1E-02 | 0 |
| 39 DDT, 4,4'- | 1.7E-02 | 1.7E-02 | 1.7E-02 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 0 |
| 40 Dieldrin | 4.6E-03 | 4.6E-03 | 4.6E-03 | 1.3E-09 | 1.3E-09 | 1.3E-09 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 1.3E-08 | 0 |
| 41 Endrin | 1.1E-03 | 1.1E-03 | 1.1E-03 | 3.4E-09 | 3.4E-09 | 3.4E-09 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 3.4E-08 | 0 |
| 42 Gamma-BHC (Lin | 2.9E-04 | 2.9E-04 | 2.9E-04 | 6.5E-08 | 6.5E-08 | 6.5E-08 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 0 |
| 43 Heptachlor (Lin | 1.3E-04 | 1.3E-04 | 1.3E-04 | 2.9E-09 | 2.9E-09 | 2.9E-09 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 2.9E-08 | 0 |
| 44 Heptachlor epo | 3.4E-04 | 3.4E-04 | 3.4E-04 | 4.0E-08 | 4.0E-08 | 4.0E-08 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 4.0E-07 | 0 |
| 45 Methoxychlor | 4.0E-03 | 4.0E-03 | 4.0E-03 | 6.5E-08 | 6.5E-08 | 6.5E-08 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 0 |
| 46 PCB 1254 | 6.5E-03 | 6.5E-03 | 6.5E-03 | 2.9E-07 | 2.9E-07 | 2.9E-07 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 2.9E-06 | 0 |
| 47 PCB 1260 | 2.9E-02 | 2.9E-02 | 2.9E-02 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 48 Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |
| 49 DDT | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | 0 |

RANGE NAME: EPC2

EXPOSURE POINT CONCENTRATIONS

EXPOSURE POINT: BLDG 313

SITE NAME: AHIL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: DATA
LAST UPDATED: 10/03/94

| CHEMICAL NAME | MEDIUM 1 INTERIOR RESIDUE | | | MEDIUM 2 INDOOR AIR | | | MEDIUM 3 INDOOR AIR REM | | | MEDIUM 4 | | | MEDIUM 5 | | | 0 |
|-------------------|---------------------------|---------|---------|---------------------|---------|---------|-------------------------|---------|---------|----------|---------|---------|----------|---------|---------|-----|
| | Ca | Cc | Cl | Ca | Cc | Cl | Ca | Cc | Cl | Ca | Cc | Cl | Ca | Cc | Cl | |
| 1 Antimony | 2.1E-01 | 3.3E-01 | 2.1E-01 | 2.3E-05 | 3.3E-06 | 2.2E-06 | 2.3E-05 | 3.3E-05 | 2.3E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 2.4E-05 | 25L |
| 2 Arsenic | 2.7E-02 | 2.7E-02 | 2.7E-02 | 3.3E-06 | 3.3E-06 | 3.3E-06 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 3.3E-05 | 25L |
| 3 Barium | 2.8E+00 | 2.8E+00 | 2.8E+00 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 2.8E-05 | 25L |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 25L |
| 5 Cadmium (food) | 2.0E-01 | 2.0E-01 | 2.0E-01 | 2.0E-06 | 2.0E-06 | 2.0E-06 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 25L |
| 6 Chromium (VI) | 2.0E+00 | 2.0E+00 | 2.0E+00 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 2.0E-05 | 25L |
| 7 Lead and Comp | 3.1E+01 | 3.1E+01 | 3.1E+01 | 3.1E-04 | 3.1E-04 | 3.1E-04 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 3.1E-03 | 25L |
| 8 Mercury, inorg | 2.2E-02 | 2.2E-02 | 2.2E-02 | 2.2E-07 | 2.2E-07 | 2.2E-07 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 25L |
| 9 Nickel | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E-05 | 0.0E-05 | 0.0E-05 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 0.0E-04 | 25L |
| 10 Silver | 1.0E-01 | 1.0E-01 | 1.0E-01 | 1.0E-06 | 1.0E-06 | 1.0E-06 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 25L |
| 11 Vanadium | 1.0E-01 | 1.0E-01 | 1.0E-01 | 1.0E-06 | 1.0E-06 | 1.0E-06 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 1.0E-05 | 25L |
| 12 Cyanide (free) | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 13 Nitrate, nitra | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 17 Benzo (a) anth | 4.2E-03 | 4.2E-03 | 4.2E-03 | 4.2E-08 | 4.2E-08 | 4.2E-08 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 25L |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 4.2E-08 | 4.2E-08 | 4.2E-08 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 4.2E-07 | 25L |
| 19 Benzo (b) fluo | 3.9E-02 | 3.9E-02 | 3.9E-02 | 3.9E-07 | 3.9E-07 | 3.9E-07 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 3.9E-06 | 25L |
| 20 Benzo (b,h,i) | 2.2E-02 | 2.2E-02 | 2.2E-02 | 2.2E-07 | 2.2E-07 | 2.2E-07 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 2.2E-06 | 25L |
| 21 Benzo (h) fluo | 1.2E-03 | 1.2E-03 | 1.2E-03 | 1.2E-08 | 1.2E-08 | 1.2E-08 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 1.2E-07 | 25L |
| 22 Chrysene | 3.7E-03 | 3.7E-03 | 3.7E-03 | 3.7E-08 | 3.7E-08 | 3.7E-08 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 3.7E-07 | 25L |
| 23 Dibenz (a,h) a | 6.1E-03 | 6.1E-03 | 6.1E-03 | 6.1E-08 | 6.1E-08 | 6.1E-08 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 6.1E-07 | 25L |
| 24 Fluoranthene | 1.9E-02 | 1.9E-02 | 1.9E-02 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 25L |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 1.9E-07 | 1.9E-07 | 1.9E-07 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 1.9E-06 | 25L |
| 26 Methylenebthal | 2.4E-03 | 2.4E-03 | 2.4E-03 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 25L |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 2.4E-08 | 2.4E-08 | 2.4E-08 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 2.4E-07 | 25L |
| 28 Phenanthrene | 6.6E-03 | 6.6E-03 | 6.6E-03 | 6.6E-08 | 6.6E-08 | 6.6E-08 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 6.6E-07 | 25L |
| 29 Pyrene | 7.6E-04 | 7.6E-04 | 7.6E-04 | 7.6E-09 | 7.6E-09 | 7.6E-09 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 7.6E-08 | 25L |
| 30 Bis (2-ethylhe | 1.4E+00 | 1.4E+00 | 1.4E+00 | 1.4E-05 | 1.4E-05 | 1.4E-05 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 1.4E-04 | 25L |
| 31 Butylbenzyl ph | 1.1E+00 | 1.1E+00 | 1.1E+00 | 1.1E-05 | 1.1E-05 | 1.1E-05 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 1.1E-04 | 25L |
| 32 Di-n-butyl ph | 2.6E-01 | 2.6E-01 | 2.6E-01 | 2.6E-06 | 2.6E-06 | 2.6E-06 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 2.6E-05 | 25L |
| 33 Di-n-octyl ph | 6.5E-02 | 6.5E-02 | 6.5E-02 | 6.5E-07 | 6.5E-07 | 6.5E-07 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 6.5E-06 | 25L |
| 34 Aldrin | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 35 Alpha-Endosulf | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 36 Beta-Endosulf | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 37 DDT, 4,4'- | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 38 DDE, 4,4'- | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 39 DDT, 4,4'- | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 40 Dieldrin | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 41 Endrin | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 42 Gamma-BHC (Lin | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 43 Heptachlor epo | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 44 Heptachlor epo | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 45 Methoxychlor | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 46 PCB 1254 | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 47 PCB 1260 | 2.3E+00 | 2.3E+00 | 2.3E+00 | 2.3E-05 | 2.3E-05 | 2.3E-05 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 2.3E-04 | 25L |
| 48 Dinitrotoluene | 4.7E-01 | 4.7E-01 | 4.7E-01 | 4.7E-06 | 4.7E-06 | 4.7E-06 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 25L |
| 49 RDX | 4.7E-01 | 4.7E-01 | 4.7E-01 | 4.7E-06 | 4.7E-06 | 4.7E-06 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 4.7E-05 | 25L |

SITE NAME: ANTL
 OPERABLE UNIT: ZONE 3 BLDGS
 FILE NAME: POP1
 LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
 RESIDENT 37

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|--|--|---|-------------------------------|-------------------------------|-------------------------------|
| | SCENARIO 1 BLDG 37 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 37 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 37 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 0 (FROM WS4) | SCENARIO 5 0 (FROM WS5) | SCENARIO 6 0 (FROM WS6) |
| 1 Antimony | 2.9E-06 | 7.3E-09 | 7.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.0E-05 | 6.0E-08 | 6.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.1E-03 | 3.2E-06 | 3.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 2.8E-07 | 8.1E-10 | 8.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 3.9E-05 | 1.1E-04 | 1.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.4E-03 | 4.0E-06 | 4.1E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 2.0E-03 | 3.5E-05 | 6.1E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 4.5E-06 | 1.3E-08 | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Manganese | 7.6E-04 | NA | 2.3E-03 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.9E-05 | 8.6E-07 | 9.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 7.1E-05 | 2.1E-07 | 2.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 6.4E-06 | 8.6E-07 | 1.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 8.0E-07 | NA | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,l) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 4.2E-07 | NA | 1.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 6.6E-07 | NA | 2.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 4.8E-06 | NA | 1.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Naphthalene | 2.5E-06 | NA | 7.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.5E-05 | NA | 4.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.9E-06 | NA | 8.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.8E-04 | NA | 5.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.7E-05 | NA | 5.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.3E-05 | NA | 3.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 8.3E-06 | NA | 2.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.3E-07 | 9.4E-09 | 9.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.6E-07 | 4.6E-09 | 4.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 1.6E-07 | 4.6E-09 | 4.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 4.3E-07 | 1.2E-08 | 1.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 8.8E-07 | 1.6E-08 | 1.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 1.8E-06 | 4.5E-08 | 4.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 4.2E-07 | 1.2E-08 | 1.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 9.6E-08 | 2.9E-09 | 2.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 2.6E-08 | 7.7E-10 | 7.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 1.2E-08 | 3.5E-10 | 3.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 3.1E-08 | 9.1E-10 | 9.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 3.7E-07 | NA | 1.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 5.9E-07 | 1.0E-07 | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.6E-06 | 4.6E-07 | 7.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
 RESIDENT 37

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|--|--|---|-------------------------------|-------------------------------|-------------------------------|
| | SCENARIO 1 BLDG 37 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 37 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 37 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 0 (FROM WS4) | SCENARIO 5 0 (FROM WS5) | SCENARIO 6 0 (FROM WS6) |
| 1 Antimony | 6E-03 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 7E-02 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 2E-02 | 5E-04 | 2E-02 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 6E-05 | 3E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 7E-02 | 4E-03 | 4E+01 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 2E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 4E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | 1E-02 | 3E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Manganese | 3E-04 | 3E-05 | 7E-04 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 1E-02 | 3E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Naphthalene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDT, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: CSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP1
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 37

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 37 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 37 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 37 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 1.8E-04 | 6.4E-09 | 4.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 1.3E-05 | 5.2E-08 | 3.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 6.9E-04 | 2.1E-05 | 8.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 1.7E-07 | 7.1E-10 | 5.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (feed) | 2.4E-05 | 9.9E-07 | 7.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 8.5E-04 | 3.5E-04 | 2.6E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 1.3E-03 | 3.1E-05 | 3.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 2.8E-04 | 1.2E-08 | 6.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 4.8E-04 | NA | 1.4E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.2E-05 | 4.8E-07 | 3.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 4.4E-05 | 1.8E-07 | 1.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 4.0E-04 | 4.8E-07 | 1.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 3.1E-07 | NA | 9.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 2.6E-07 | NA | 7.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 4.1E-07 | NA | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 3.0E-06 | NA | 9.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebthal | 1.5E-04 | NA | 4.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 9.6E-04 | NA | 2.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 1.8E-04 | NA | 5.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.1E-04 | NA | 3.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.1E-05 | NA | 3.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 8.0E-04 | NA | 2.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 5.2E-06 | NA | 1.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 2.1E-07 | 0.3E-09 | 6.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.0E-07 | 4.1E-09 | 3.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 9.7E-08 | 4.0E-09 | 2.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 2.7E-07 | 1.1E-08 | 8.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 3.4E-07 | 1.4E-08 | 1.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 9.6E-07 | 3.9E-08 | 2.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 2.6E-07 | 1.1E-08 | 7.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 6.1E-08 | 2.5E-09 | 1.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Bame-BHC (Lin | 1.6E-08 | 6.7E-10 | 4.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 7.6E-09 | 3.1E-10 | 2.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 1.9E-08 | 7.9E-10 | 5.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 2.3E-07 | NA | 6.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 3.7E-07 | 9.0E-08 | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 1.6E-06 | 4.0E-07 | 4.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

CHRONIC RISK SUMMARY

FUTURE
RESIDENT 37

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 37 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 37 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 37 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 4E-03 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 4E-02 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 1E-02 | 4E-04 | 1E-01 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 3E-05 | 3E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (feed) | 2E-02 | 4E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 2E-01 | 1E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 9E-03 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Methyl | 2E-02 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 2E-03 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 6E-03 | 3E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 2E-04 | 2E-05 | 6E-05 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,i) | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 7E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 7E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylenebthal | 4E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 6E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 5E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 5E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 8E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 7E-03 | 3E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 2E-03 | 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 2E-03 | 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 2E-03 | 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 2E-03 | 8E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Bame-BHC (Lin | 5E-03 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 2E-04 | 8E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 5E-05 | 2E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 2E-05 | 6E-07 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 1E-03 | 6E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 5E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: ANTL
 OPERABLE UNIT: ZONE 3 BLDGS
 FILE NAME: POP1
 LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
 RESIDENT 37

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.7E-07 | 2.5E-09 | 8.0E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 2 Arsenic | 2.2E-06 | 2.1E-06 | 6.5E-06 | 6.5E-06 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.2E-04 | 1.1E-04 | 3.5E-04 | 3.5E-04 | 0 | 0 |
| 4 Beryllium | 3.0E-06 | 2.6E-10 | 8.9E-10 | 1.2E-07 | 0 | 0 |
| 5 Cadmium (feed) | 4.2E-06 | 3.9E-07 | 1.2E-07 | 1.2E-07 | 0 | 0 |
| 6 Chromium (VI) | 1.9E-04 | 1.4E-04 | 4.4E-04 | 4.4E-04 | 0 | 0 |
| 7 Lead and Comp | 2.2E-04 | 1.2E-05 | 6.5E-06 | 6.5E-06 | 0 | 0 |
| 8 Mercury, inorg | 4.8E-07 | 4.6E-09 | 1.4E-09 | 1.4E-09 | 0 | 0 |
| 9 Methyl | 8.1E-05 | NA | 2.4E-06 | 2.4E-06 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-06 | 1.9E-07 | 6.1E-06 | 6.1E-06 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 7.5E-04 | 7.1E-06 | 2.3E-07 | 2.3E-07 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 6.8E-07 | 1.9E-07 | 2.0E-06 | 2.0E-06 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 5.3E-06 | NA | 1.6E-09 | 1.6E-09 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyro | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 4.4E-06 | NA | 1.3E-09 | 1.3E-09 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 7.0E-06 | NA | 2.1E-09 | 2.1E-09 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 5.1E-07 | NA | 1.5E-06 | 1.5E-06 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenechlor | 2.6E-07 | NA | 7.8E-09 | 7.8E-09 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.6E-06 | NA | 4.9E-06 | 4.9E-06 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 3.1E-07 | NA | 9.3E-09 | 9.3E-09 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.9E-05 | NA | 5.6E-07 | 5.6E-07 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.8E-06 | NA | 5.9E-06 | 5.9E-06 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 1.4E-06 | NA | 4.1E-06 | 4.1E-06 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 8.9E-07 | NA | 2.7E-06 | 2.7E-06 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.5E-06 | 3.3E-09 | 1.1E-09 | 1.1E-09 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.7E-06 | 1.4E-09 | 5.2E-10 | 5.2E-10 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 1.7E-06 | 1.8E-09 | 5.0E-10 | 5.0E-10 | 0.0E+00 | 0.0E+00 |
| 37 DDD, 4,4'- | 4.9E-06 | 4.3E-09 | 1.4E-09 | 1.4E-09 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 5.8E-06 | 5.8E-09 | 1.8E-09 | 1.8E-09 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 1.6E-07 | 1.5E-06 | 4.9E-09 | 4.9E-09 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 4.8E-06 | 4.2E-09 | 1.3E-09 | 1.3E-09 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.0E-06 | 9.8E-10 | 3.1E-10 | 3.1E-10 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 2.8E-09 | 2.7E-10 | 8.4E-11 | 8.4E-11 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 1.3E-09 | 1.2E-10 | 3.9E-11 | 3.9E-11 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 3.3E-09 | 3.1E-10 | 1.0E-10 | 1.0E-10 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 3.9E-06 | NA | 1.2E-09 | 1.2E-09 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 6.3E-06 | 3.8E-06 | 1.9E-09 | 1.9E-09 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.8E-07 | 1.6E-07 | 8.3E-09 | 8.3E-09 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
 RESIDENT 37

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|-----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | NA | NA | NA | NA | NA | NA |
| 2 Arsenic | 4E-06 | 4E-06 | 1E-06 | 1E-06 | 0E+00 | 0E+00 |
| 3 Barium | NA | NA | NA | NA | NA | NA |
| 4 Beryllium | 1E-07 | 2E-07 | 7E-09 | 7E-09 | 0 | 0 |
| 5 Cadmium (feed) | NA | NA | NA | NA | 0 | 0 |
| 6 Chromium (VI) | NA | NA | 2E-04 | 2E-04 | 0 | 0 |
| 7 Lead and Comp | NA | NA | NA | NA | 0 | 0 |
| 8 Mercury, inorg | NA | NA | NA | NA | 0 | 0 |
| 9 Methyl | NA | NA | 2E-06 | 2E-06 | 0 | 0 |
| 10 Silver | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 11 Vanadium | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 12 Cyanide (free) | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 14 Acenaphthene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 15 Acenaphthylene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 16 Anthracene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 4E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 18 Benzo (a) pyro | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 20 Benzo (g,h,i) | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 21 Benzo (h) fluo | 3E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 22 Chrysene | 5E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 24 Fluoranthene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 25 Fluorene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 26 Methylenechlor | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 27 Naphthalene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 28 Phenanthrene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 29 Pyrene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 3E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 34 Aldrin | 6E-07 | 6E-08 | 2E-08 | 2E-08 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 37 DDD, 4,4'- | 1E-08 | 1E-08 | NA | NA | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 2E-08 | 2E-08 | NA | NA | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 6E-08 | 6E-08 | NA | NA | 0E+00 | 0E+00 |
| 40 Dieldrin | 7E-07 | 7E-08 | NA | NA | 0E+00 | 0E+00 |
| 41 Endrin | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 4E-09 | 3E-10 | NA | NA | 0E+00 | 0E+00 |
| 43 Heptachlor | 6E-09 | 5E-10 | NA | NA | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 3E-08 | 3E-09 | NA | NA | 0E+00 | 0E+00 |
| 45 Methoxychlor | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 46 PCB 1254 | 5E-07 | 3E-07 | NA | NA | 0E+00 | 0E+00 |
| 47 PCB 1260 | 2E-06 | 1E-06 | NA | NA | 0E+00 | 0E+00 |

| | | | | | | | | | |
|-----------------------------|------------------------------|--------------------|--------------------|----------------|----------------|----------|----------------|----------------|----------------|
| 49 Dinitrotoluene 49 MDX | 0.0E+00 0.0E+00 | 0.0E+00 0.0E+00 | 0.0E+00 0.0E+00 | 0E+00 0E+00 | 0E+00 0E+00 | NA NA | 0E+00 0E+00 | 0E+00 0E+00 | 0E+00 0E+00 |
| | TOTAL PATHWAY CANCER RISK | | | 1E-05 | 2E-06 | 2E-04 | 0E+00 | 0E+00 | 0E+00 |
| | POPULATION TOTAL EXCESS RISK | | | 2E-04 | | | | | |

RANGE NAME: CSUM

CHRONIC EXPOSURE SUMMARY

FUTURE
COMM. WORKER 37

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|--------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLOG 37 INTERIOR RE ORAL | SCENARIO 2 BLOG 37 INTERIOR RE DERMAL | SCENARIO 3 BLOG 37 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 2.7E-06 | 2.6E-09 | 5.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.2E-07 | 2.1E-06 | 4.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.2E-05 | 1.1E-04 | 2.3E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 3.0E-09 | 2.0E-10 | 5.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 4.2E-07 | 4.0E-07 | 8.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.5E-05 | 1.4E-06 | 2.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 2.2E-05 | 1.2E-05 | 4.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 4.9E-08 | 4.6E-09 | 9.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Methyl | 8.1E-06 | NA | 1.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-07 | 1.9E-07 | 3.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 7.6E-07 | 7.1E-08 | 1.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 6.8E-08 | 1.9E-07 | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitro | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 5.3E-09 | NA | 1.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 4.5E-09 | NA | 8.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 7.0E-09 | NA | 1.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 5.1E-08 | NA | 9.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylisophthal | 2.6E-08 | NA | 5.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.6E-07 | NA | 3.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 3.1E-08 | NA | 6.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.9E-06 | NA | 3.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.8E-07 | NA | 3.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.4E-07 | NA | 2.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 8.9E-08 | NA | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.5E-09 | 3.3E-09 | 6.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.7E-09 | 1.6E-09 | 3.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 1.7E-09 | 1.6E-09 | 3.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4' | 4.6E-09 | 4.3E-09 | 8.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4' | 5.9E-09 | 5.6E-09 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4' | 1.7E-08 | 1.6E-08 | 3.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 4.0E-09 | 4.3E-09 | 8.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.0E-09 | 9.9E-10 | 2.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (lin | 2.8E-10 | 2.7E-10 | 5.4E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 1.3E-10 | 1.2E-10 | 2.5E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 3.3E-10 | 3.2E-10 | 6.4E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 3.9E-09 | NA | 7.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1264 | 6.4E-09 | 3.6E-08 | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.8E-08 | 1.6E-07 | 5.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP2
LAST UPDATED: 09/30/94

CHRONIC RISK SUMMARY

FUTURE
COMM. WORKER 37

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|--------------------|--|--|---|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLOG 37 INTERIOR RE ORAL | SCENARIO 2 BLOG 37 INTERIOR RE DERMAL | SCENARIO 3 BLOG 37 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 7E-05 | 6E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 7E-04 | 7E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 2E-04 | 2E-04 | 2E-02 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 6E-07 | 1E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 4E-04 | 2E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 3E-03 | 6E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 2E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 4E-04 | 8E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Methyl | 4E-05 | 8E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 1E-04 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 3E-06 | 1E-05 | 7E-06 | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitro | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (g,h,i) | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (h) fluo | 1E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 2E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 1E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylisophthal | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4' | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4' | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4' | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (lin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1264 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP2
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
COMM. WORKER 37

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|--------------------|---|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 9.6E-09 | 9.1E-10 | 1.8E-09 | (FROM WS3) | (FROM WS4) | (FROM WS6) |
| 2 Arsenic | 7.8E-08 | 7.4E-09 | 1.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 4.2E-06 | 4.0E-07 | 8.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 1.1E-09 | 1.0E-10 | 2.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 1.5E-07 | 1.4E-07 | 2.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 5.2E-06 | 4.9E-07 | 1.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Compo | 7.7E-06 | 4.4E-06 | 1.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.7E-06 | 1.6E-09 | 3.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 2.9E-06 | NA | 5.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 7.3E-08 | 6.9E-08 | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 2.7E-07 | 2.6E-08 | 5.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 2.4E-06 | 6.9E-08 | 4.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitro | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 1.9E-09 | 3.6E-10 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyro | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.8E-09 | MA | 3.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 2.9E-09 | MA | 4.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.8E-08 | MA | 3.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylinsphthal | 9.4E-09 | MA | 1.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | MA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 5.9E-08 | MA | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 1.1E-08 | MA | 2.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bie (2-ethylhe | 6.7E-07 | MA | 1.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 6.6E-08 | MA | 9.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 4.9E-08 | MA | 6.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-actyl ph | 3.2E-08 | MA | 6.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 1.3E-09 | 1.2E-09 | 2.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 6.2E-10 | 5.9E-10 | 1.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 6.0E-10 | 5.6E-10 | 1.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 1.6E-09 | 1.5E-09 | 3.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 2.1E-09 | 2.0E-09 | 4.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 5.9E-09 | 5.6E-09 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 1.6E-09 | 1.5E-09 | 3.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 3.7E-10 | 3.5E-10 | 7.2E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 1.0E-10 | 9.9E-11 | 1.9E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 4.6E-11 | 4.4E-11 | 8.9E-12 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 1.2E-10 | 1.1E-10 | 2.3E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 1.4E-09 | MA | 2.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 2.3E-09 | 1.3E-08 | 4.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 1.0E-08 | 5.7E-08 | 1.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
COMM. WORKER 37

| LIFETIME EXCESS CANCER RISK | | | | | |
|-----------------------------|-------------|------------|------------|------------|------------|
| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| BLDG 37 | BLDG 37 | BLDG 37 | | | |
| INTERIOR RE | INTERIOR RE | INDOOR AIR | | | |
| ORAL | DERMAL | INHALATION | | | |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 1E-07 | 1E-08 | 2E-07 | | | |
| NA | NA | NA | | | |
| 5E-09 | 9E-08 | 2E-09 | | | |
| NA | NA | 2E-07 | | | |
| NA | NA | 4E-05 | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | 5E-07 | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| 1E-08 | NA | NA | | | |
| 0E+00 | NA | NA | | | |
| 0E+00 | NA | NA | | | |
| NA | NA | NA | | | |
| 1E-08 | NA | NA | | | |
| 2E-08 | NA | NA | | | |
| 0E+00 | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| 9E-09 | NA | NA | | | |
| NA | NA | NA | | | |
| NA | NA | NA | | | |
| 2E-08 | 2E-08 | 4E-09 | | | |
| NA | NA | NA | | | |
| 4E-10 | 4E-10 | NA | | | |
| 7E-10 | 7E-10 | NA | | | |
| 2E-09 | 2E-09 | 4E-10 | | | |
| 3E-08 | 2E-08 | 5E-09 | | | |
| NA | NA | NA | | | |
| 1E-10 | 1E-10 | NA | | | |
| 2E-10 | 2E-10 | 4E-11 | | | |
| 1E-09 | 1E-09 | 2E-10 | | | |
| NA | NA | NA | | | |
| 2E-08 | 1E-07 | NA | | | |
| 8E-08 | 5E-07 | NA | | | |

| | | | | | | | | | |
|----|----------------|------------------------------|---------|---------|---------|-------|-------|-------|-------|
| 48 | Dinitrotoluene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 49 | RDX | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| | | TOTAL PATHWAY CANCER RISK | | | | 3E-07 | 7E-07 | 4E-05 | 0E+00 |
| | | POPULATION TOTAL EXCESS RISK | | | | 4E-05 | | | |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP3
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RENOV. WORKER 37

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 2.7E-06 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.2E-07 | 0.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.2E-05 | 4.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 3.0E-09 | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (Food) | 4.2E-07 | 1.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.8E-05 | 8.8E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 2.2E-05 | 6.7E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 4.9E-06 | 1.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 8.1E-06 | 3.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 2.0E-07 | 6.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 7.6E-07 | 3.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 6.8E-06 | 2.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 5.3E-09 | 2.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 4.5E-09 | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 7.0E-09 | 2.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 5.1E-08 | 2.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthral | 2.6E-09 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 1.8E-07 | 6.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 3.1E-08 | 1.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.9E-06 | 7.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.8E-07 | 7.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.4E-07 | 5.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 8.9E-08 | 3.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 3.9E-09 | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 1.7E-09 | 7.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulfa | 1.7E-09 | 6.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 4.8E-09 | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 5.9E-09 | 2.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 1.7E-08 | 6.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 4.8E-09 | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 1.0E-09 | 4.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 2.8E-10 | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 1.3E-10 | 5.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 3.3E-10 | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 3.9E-09 | 1.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 6.4E-09 | 2.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.6E-08 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RENOV. WORKER 37

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 7E-05 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 7E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 2E-04 | 3E-02 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 6E-07 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (Food) | 7E-04 | 5E-01 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 4E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | 1E-04 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 9 Nickel | 3E-06 | 9E-04 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (g,h,i) | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (h) fluo | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulfa | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 |

| | | |
|-------------------|---------|---------|
| 48 Dinitrotoluene | 0.0E+00 | 0.0E+00 |
| 49 RDX | 0.0E+00 | 0.0E+00 |

00 + 00
00 + 00

48 Dinitrotoluene
49 RDX

00 + 20 = 0
00 + 20 = 0

00 + 00
00 + 00

48 Dinitrotoluene
49 RDX

00 + 20 = 0
00 + 20 = 0

| | |
|----|---------|
| NA | 02 + 00 |
| NA | 02 + 00 |

00 + 30
00 + 30

二 二

二 二

PATHWAY SUM (HI)

PATHWAY SUM (HI)

38-03

38-03

58-01

58-01

00 • 30

00 • 30

00 + 30

00 + 30

00-00

00 + 30

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP3
LAST UPDATED: 09/30/94

LIFETIME RISK SUMMARY

**FUTURE
RENOV.**

| LIFETIME EXCESS CANCER RISK | | | | | | |
|-----------------------------|------------|------------|------------|------------|------------|---|
| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | |
| BLDG 37 | BLDG 37 | 0 | 0 | 0 | 0 | 0 |
| INTERIOR RE | INDOOR AIR | 0 | 0 | 0 | 0 | 0 |
| ORAL | INHALATION | 0 | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) | |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 | |
| 5E-09 | 2E-07 | | | | | |
| NA | NA | | | | | |
| 2E-10 | 1E-09 | | | | | |
| NA | 1E-07 | | | | | |
| NA | 4E-05 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | 4E-07 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 8E-10 | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | NA | | | | | |
| NA | NA | | | | | |
| 5E-10 | NA | | | | | |
| 7E-10 | NA | | | | | |
| 0E+00 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 4E-10 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 9E-10 | 3E-09 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 2E-11 | NA | | | | | |
| 3E-11 | NA | | | | | |
| 8E-11 | 3E-10 | | | | | |
| 1E-09 | 4E-09 | | | | | |
| NA | NA | | | | | |
| 5E-12 | NA | | | | | |
| 8E-12 | 3E-11 | | | | | |
| 4E-11 | 2E-10 | | | | | |
| NA | NA | | | | | |
| 7E-10 | NA | | | | | |
| 3E-09 | NA | | | | | |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP4
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RESIDENT 313

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/doy) | | | | | |
|----------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 3.0E-05 | 9.0E-08 | 7.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.4E-06 | 7.1E-09 | 7.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 2.8E-04 | 7.3E-07 | 7.7E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (feed) | 1.8E-05 | 5.3E-07 | 5.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.8E-04 | 8.2E-07 | 5.4E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 2.8E-03 | 5.0E-05 | 6.5E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 2.0E-06 | 5.9E-09 | 6.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 7.3E-04 | NA | 2.2E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 9.4E-04 | 2.7E-07 | 2.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.7E-05 | 4.9E-08 | 5.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.1E-04 | 6.1E-07 | 6.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 3.8E-07 | NA | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 3.6E-06 | NA | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 2.0E-06 | NA | 5.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.1E-07 | NA | 3.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 3.4E-07 | NA | 1.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 5.6E-07 | NA | 1.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.4E-06 | NA | 4.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylenebiphenyl | 2.2E-07 | NA | 6.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 6.0E-07 | NA | 2.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 6.9E-08 | NA | 3.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.2E-04 | NA | 2.9E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 9.8E-05 | NA | 7.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 2.4E-05 | NA | 1.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 5.9E-06 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1234 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.1E-05 | 3.7E-06 | 6.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RESIDENT 313

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|----------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 8E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 8E-03 | 2E-05 | NA | 0 | 0 | 0 |
| 3 Barium | 4E-03 | 1E-04 | 6E-03 | 0 | 0 | 0 |
| 4 Beryllium | 0E+00 | 0E+00 | NA | 0 | 0 | 0 |
| 5 Cadmium (feed) | 9E-03 | 5E-04 | 5E+00 | 0 | 0 | 0 |
| 6 Chromium (VI) | 7E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 4E-02 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | 2E-03 | 1E-03 | NA | 0 | 0 | 0 |
| 9 Nickel | 2E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 2E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 2E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 9E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 9E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 5E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,i) | 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 5E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylenebiphenyl | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 2E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 2E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 6E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 5E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 2E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (lin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1234 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 3E-01 | 6E-02 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: CSUM

SITE NAME: AMTL
 OPERABLE UNIT: ZONE 3 BLDGS
 FILE NAME: POP4
 LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
 RESIDENT 313

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 1.9E-05 | 7.6E-08 | 5.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 1.5E-06 | 6.1E-09 | 4.5E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 1.6E-04 | 6.5E-07 | 4.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (feed) | 1.1E-05 | 4.6E-07 | 3.4E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.1E-04 | 4.6E-07 | 3.4E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Compo | 1.8E-03 | 4.3E-05 | 5.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 1.3E-06 | 5.2E-09 | 3.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Mithal | 4.6E-04 | NA | 1.4E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 5.9E-06 | 2.4E-07 | 1.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.0E-05 | 4.2E-06 | 3.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 1.3E-04 | 5.3E-07 | 3.9E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 2.4E-07 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyro | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 2.2E-06 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,l) | 1.2E-06 | NA | 6.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 7.0E-06 | NA | 3.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 2.1E-07 | NA | 2.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 3.5E-07 | NA | 6.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluorene | 0.0E+00 | NA | 1.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluoranthene | 0.0E+00 | NA | 2.6E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthral | 1.4E-07 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 4.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 3.8E-07 | NA | 1.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 4.3E-06 | NA | 1.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 7.0E-05 | NA | 1.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 6.1E-05 | NA | 2.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 1.5E-05 | NA | 1.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 3.7E-06 | NA | 4.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 1.3E-05 | 0.0E+00 | 3.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

CHRONIC RISK SUMMARY

FUTURE
 RESIDENT 313

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 5E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 5E-03 | 2E-05 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 2E-03 | 9E-05 | 3E-02 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (feed) | 1E-02 | 2E-02 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 2E-02 | 2E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Compo | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 4E-03 | 9E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Mithal | 2E-02 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 1E-03 | 1E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 1E-03 | 6E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 1E-03 | 5E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyro | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluorene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluoranthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 1E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 1E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 4E-03 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 3E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 2E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 2E-01 | 5E-02 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP4
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
RESIDENT 313

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/dwy) | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR IMMULATION (FROM WS3) | SCENARIO 4 BLDG 313 INDOOR AIR IMMULATION (FROM WS4) | SCENARIO 5 BLDG 313 INDOOR AIR IMMULATION (FROM WS5) | SCENARIO 6 BLDG 313 INDOOR AIR IMMULATION (FROM WS6) |
| 1 Antimony | 3.2E-04 | 3.0E-08 | 9.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.6E-07 | 2.4E-09 | 7.7E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 2.7E-05 | 2.6E-07 | 8.2E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 1.9E-04 | 1.0E-07 | 5.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.9E-05 | 1.0E-07 | 5.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 3.0E-04 | 1.7E-05 | 9.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 2.2E-07 | 2.0E-09 | 6.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 7.7E-05 | NA | 2.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.0E-06 | 9.5E-08 | 3.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.8E-04 | 1.7E-08 | 5.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.2E-05 | 2.1E-07 | 6.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 4.0E-08 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 3.8E-07 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,l) | 2.1E-07 | NA | 1.1E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.2E-08 | NA | 6.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 3.6E-08 | NA | 3.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 6.0E-08 | NA | 1.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.9E-07 | NA | 1.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 4.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthrac | 2.3E-08 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 6.6E-08 | NA | 7.0E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 7.3E-09 | NA | 1.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.3E-05 | NA | 2.2E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.0E-05 | NA | 4.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 2.6E-06 | NA | 3.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 6.3E-07 | NA | 7.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 1.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.2E-06 | 1.3E-06 | 6.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
RESIDENT 313

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR IMMULATION (FROM WS3) | SCENARIO 4 BLDG 313 INDOOR AIR IMMULATION (FROM WS4) | SCENARIO 5 BLDG 313 INDOOR AIR IMMULATION (FROM WS5) | SCENARIO 6 BLDG 313 INDOOR AIR IMMULATION (FROM WS6) |
| 1 Antimony | 5E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 2 Arsenic | NA | 4E-09 | 1E-07 | NA | 0E+00 | 0E+00 |
| 3 Barium | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 4 Beryllium | NA | 0E+00 | NA | NA | 0E+00 | 0E+00 |
| 5 Cadmium (food) | NA | NA | 4E-07 | NA | 0E+00 | 0E+00 |
| 6 Chromium (VI) | NA | NA | 2E-05 | NA | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 8 Mercury, inorg | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 9 Nickel | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 10 Silver | NA | NA | 2E-06 | NA | 0E+00 | 0E+00 |
| 11 Vanadium | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 12 Cyanide (free) | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 14 Acenaphthene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 15 Acenaphthylene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 16 Anthracene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 3E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 22 Chrysene | 9E-08 | NA | NA | NA | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 3E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 24 Fluoranthene | 4E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 25 Fluorene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 26 Methylanthrac | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 27 Naphthalene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 28 Phenanthrene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 29 Pyrene | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 2E-07 | NA | NA | NA | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | NA | NA | NA | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 45 Heptachlor | NA | NA | NA | NA | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 2E-05 | 1E-05 | NA | NA | 0E+00 | 0E+00 |

SITE NAME: AMIL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP9
LAST UPDATED: 09/30/94

CHRONIC EXPOSURE SUMMARY

FUTURE
COMM. WORKER 313

| CHEMICAL NAME | CHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 3.2E-07 | 3.1E-08 | 6.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 2.6E-08 | 2.6E-09 | 5.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 2.8E-04 | 2.8E-07 | 5.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (feed) | 1.9E-07 | 1.8E-07 | 3.7E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.9E-04 | 1.8E-07 | 3.7E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 3.0E-05 | 1.7E-05 | 5.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 2.2E-08 | 2.1E-09 | 4.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 7.8E-04 | NA | 1.5E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.0E-07 | 9.5E-08 | 1.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.8E-07 | 1.7E-08 | 3.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.2E-04 | 2.1E-07 | 4.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 4.1E-09 | NA | 7.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 3.8E-08 | NA | 7.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 2.1E-04 | NA | 4.1E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.2E-09 | NA | 2.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 3.6E-09 | NA | 6.9E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 6.0E-09 | NA | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.5E-08 | NA | 2.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Naphthalene | 2.3E-09 | NA | 4.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Phenanthrene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Pyrene | 6.5E-09 | NA | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 B[a]A | 7.4E-10 | NA | 1.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 B[a]P | 1.3E-06 | NA | 2.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.0E-06 | NA | 2.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 2.8E-07 | NA | 5.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 6.4E-08 | NA | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epi | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.2E-07 | 1.1E-06 | 4.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

CHRONIC RISK SUMMARY

FUTURE
COMM. WORKER 313

| CHEMICAL NAME | CHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|---|---|--|--------------------------|--------------------------|--------------------------|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION | SCENARIO 4 (FROM WS4) | SCENARIO 5 (FROM WS5) | SCENARIO 6 (FROM WS6) |
| 1 Antimony | 8E-04 | 8E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 9E-05 | 9E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 4E-05 | 4E-05 | 4E-03 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (feed) | 2E-04 | 7E-03 | NA | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 4E-04 | 7E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 7E-05 | 3E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 9 Nickel | 4E-04 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 2E-05 | 4E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 3E-05 | 2E-04 | NA | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 2E-05 | 2E-06 | NA | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 1E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 1E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (g,h,i) | 5E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 3E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 9E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 2E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 4E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 26 Naphthalene | 6E-08 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 27 Phenanthrene | 0E+00 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 28 Pyrene | 2E-07 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 29 B[a]A | 7E-05 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 30 B[a]P | 5E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 3E-06 | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | NA | NA | NA | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 37 DDT, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 38 DDT, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (lin | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epi | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | 0E+00 | NA | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 3E-03 | 2E-02 | NA | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: LSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POPS
LAST UPDATED: 09/30/94

LIFETIME EXPOSURE SUMMARY

FUTURE
COMM. WORKER 313

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 BLDG 313 INDOOR AIR INHALATION (FROM WS4) | SCENARIO 5 BLDG 313 INDOOR AIR INHALATION (FROM WS5) | SCENARIO 6 BLDG 313 INDOOR AIR INHALATION (FROM WS6) |
| 1 Antimony | 1.2E-07 | 1.1E-08 | 2.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 9.3E-07 | 8.8E-10 | 1.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 9.9E-07 | 9.3E-08 | 1.9E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 6.9E-08 | 6.8E-08 | 1.3E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 6.9E-07 | 6.8E-08 | 1.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Compo | 1.1E-05 | 6.2E-06 | 2.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, Inorg | 7.8E-09 | 7.3E-10 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 2.8E-06 | NA | 5.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 3.6E-08 | 3.4E-08 | 6.9E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 6.4E-08 | 6.0E-09 | 1.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, Nitro | 7.9E-07 | 7.5E-08 | 1.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 1.5E-09 | NA | 2.8E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 1.4E-08 | NA | 2.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,i) | 7.5E-09 | NA | 1.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 4.3E-10 | NA | 0.2E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 1.3E-09 | NA | 2.5E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 2.1E-09 | NA | 4.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 5.2E-09 | NA | 1.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthral | 8.3E-10 | NA | 1.6E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 2.3E-09 | NA | 4.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 2.6E-10 | NA | 5.1E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 4.8E-07 | NA | 9.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 3.7E-07 | NA | 7.2E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl pht | 9.2E-08 | NA | 1.8E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl pht | 2.3E-08 | NA | 4.4E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDD, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | NA | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 8.0E-08 | 4.5E-07 | 1.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

LIFETIME RISK SUMMARY

FUTURE
COMM. WORKER 313

| CHEMICAL NAME | LIFETIME EXCESS CANCER RISK | | | | | |
|-------------------|---|---|--|--|--|--|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL (FROM WS1) | SCENARIO 2 BLDG 313 INTERIOR RE DERMAL (FROM WS2) | SCENARIO 3 BLDG 313 INDOOR AIR INHALATION (FROM WS3) | SCENARIO 4 BLDG 313 INDOOR AIR INHALATION (FROM WS4) | SCENARIO 5 BLDG 313 INDOOR AIR INHALATION (FROM WS5) | SCENARIO 6 BLDG 313 INDOOR AIR INHALATION (FROM WS6) |
| 1 Antimony | 2E-08 | 2E-09 | 3E-08 | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Compo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, Inorg | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 9 Nickel | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, Nitro | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,i) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (h) fluo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl pht | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl pht | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 37 DDD, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 6E-07 | 4E-06 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |

RANGE NAME: SSUM

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP6
LAST UPDATED: 09/30/94

SUBCHRONIC EXPOSURE SUMMARY

FUTURE
RENOV. WORKER 313

| CHEMICAL NAME | SUBCHRONIC DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|-------------------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 3.2E-07 | 1.3E-06 | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) |
| 2 Arsenic | 2.6E-06 | 1.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 2.8E-06 | 1.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 1.3E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium (food) | 1.9E-07 | 7.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 1.9E-06 | 7.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 3.0E-05 | 1.2E-04 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 2.2E-06 | 8.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Manganese | 7.8E-06 | 3.1E-05 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.0E-07 | 4.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 1.8E-07 | 7.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitra | 2.2E-06 | 8.9E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 4.1E-09 | 1.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 3.8E-08 | 1.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (b,h,l) | 2.1E-08 | 8.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (k) fluo | 1.2E-09 | 4.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 3.6E-09 | 1.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 6.0E-09 | 2.4E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 1.5E-08 | 6.9E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthral | 2.3E-09 | 9.3E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 6.5E-09 | 2.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 7.4E-10 | 3.0E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.3E-06 | 5.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.0E-06 | 4.2E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 2.6E-07 | 1.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 6.4E-08 | 2.5E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 2.2E-07 | 9.0E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

SUBCHRONIC RISK SUMMARY

FUTURE
RENOV. WORKER 313

| CHEMICAL NAME | SUBCHRONIC HAZARD QUOTIENT | | | | | |
|-------------------|----------------------------|------------|------------|------------|------------|------------|
| | SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 |
| 1 Antimony | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 2 Arsenic | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 3 Barium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 4 Beryllium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 5 Cadmium (food) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 6 Chromium (VI) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 7 Lead and Comp | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 8 Mercury, inorg | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 9 Manganese | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 10 Silver | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 11 Vanadium | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 12 Cyanide (free) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 13 Nitrate, nitra | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 14 Acenaphthene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 15 Acenaphthylene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 16 Anthracene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 17 Benzo (a) anth | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 18 Benzo (a) pyre | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 19 Benzo (b) fluo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 20 Benzo (b,h,l) | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 21 Benzo (k) fluo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 22 Chrysene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 23 Dibenz (a,h) a | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 24 Fluoranthene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 25 Fluorene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 26 Methylanthral | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 27 Naphthalene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 28 Phenanthrene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 29 Pyrene | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 30 Bis (2-ethylhe | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 31 Butylbenzyl ph | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 32 Di-n-butyl ph | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 33 Di-n-octyl ph | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 34 Aldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 35 Alpha-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 36 Beta-Endosulf | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 37 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 38 DDE, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 39 DDT, 4,4'- | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 40 Dieldrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 41 Endrin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 42 Gamma-BHC (Lin | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 43 Heptachlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 44 Heptachlor epo | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 45 Methoxychlor | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 46 PCB 1254 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |
| 47 PCB 1260 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 | 0E+00 |

48 Dinitrotoluene 4.5E-07 1.6E-04
 49 MDX 4.6E-07 1.9E-04

2E-04 MA
 2E-04 MA

PATHWAY SUM (HI)
 POPULATION TOTAL

7E+00 0E+00 0E+00 0E+00 0E+00
 7E+00 ,

SITE NAME: AMTL
OPERABLE UNIT: ZONE 3 BLDGS
FILE NAME: POP6
LAST UPDATED: 09/30/94

LIFETIME RISK SUMMARY

**FUTURE
REMOV.**

| CHEMICAL NAME | LIFETIME AVERAGE DAILY INTAKE (mg/kg/day) | | | | | |
|-------------------|---|--|--|--|--|--|
| | SCENARIO 1 BLDG 313 INTERIOR RE ORAL | SCENARIO 2 BLDG 313 INDOOR AIR INHALATION | SCENARIO 3 (FROM WS1) (FROM WS2) | SCENARIO 4 (FROM WS3) (FROM WS4) | SCENARIO 5 (FROM WS5) (FROM WS6) | SCENARIO 6 (FROM WS6) (FROM WS6) |
| 1 Antimony | 4.6E-09 | 1.8E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 2 Arsenic | 3.7E-10 | 1.5E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 3 Barium | 3.9E-06 | 1.6E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 4 Beryllium | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 5 Cadmium | 2.8E-09 | 1.1E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 6 Chromium (VI) | 2.8E-06 | 1.1E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 7 Lead and Comp | 4.3E-07 | 1.7E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 8 Mercury, inorg | 3.1E-10 | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 9 Nickel | 1.1E-07 | 4.8E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 10 Silver | 1.4E-09 | 5.8E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 11 Vanadium | 2.8E-09 | 1.0E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 12 Cyanide (free) | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 13 Nitrate, nitro | 3.2E-06 | 1.3E-07 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 14 Acenaphthene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 15 Acenaphthylene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 16 Anthracene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 17 Benzo (a) anth | 5.8E-11 | 2.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 18 Benzo (a) pyre | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 19 Benzo (b) fluo | 5.4E-10 | 2.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 20 Benzo (g,h,i) | 3.0E-10 | 1.2E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 21 Benzo (h) fluo | 1.7E-11 | 6.9E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 22 Chrysene | 9.1E-11 | 2.1E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 23 Dibenz (a,h) a | 8.8E-11 | 3.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 24 Fluoranthene | 2.1E-10 | 8.4E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 25 Fluorene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 26 Methylanthrac | 3.3E-11 | 1.3E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 27 Naphthalene | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 28 Phenanthrene | 9.2E-11 | 3.7E-10 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 29 Pyrene | 1.1E-11 | 4.2E-11 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 30 Bis (2-ethylhe | 1.9E-08 | 7.6E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 31 Butylbenzyl ph | 1.5E-08 | 6.0E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 32 Di-n-butyl ph | 3.7E-09 | 1.5E-08 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 33 Di-n-octyl ph | 9.1E-10 | 3.6E-09 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 34 Aldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 35 Alpha-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 36 Beta-Endosulf | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 37 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 38 DDE, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 39 DDT, 4,4'- | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 40 Dieldrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 41 Endrin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 42 Gamma-BHC (Lin | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 43 Heptachlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 44 Heptachlor epo | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 45 Methoxychlor | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 46 PCB 1254 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |
| 47 PCB 1260 | 3.2E-09 | 1.3E-06 | 0.0E+00 | 0.0E+00 | 0.0E+00 | 0.0E+00 |

**FUTURE
REMOV.**

| LIFETIME EXCESS CANCER RISK | | | | | | |
|-----------------------------|------------|------------|------------|------------|------------|---|
| SCENARIO 1 | SCENARIO 2 | SCENARIO 3 | SCENARIO 4 | SCENARIO 5 | SCENARIO 6 | |
| BLDG 313 | BLDG 313 | 0 | 0 | 0 | 0 | 0 |
| INTERIOR RE | INDOOR AIR | 0 | 0 | 0 | 0 | 0 |
| ORAL | INHALATION | 0 | 0 | 0 | 0 | 0 |
| (FROM WS1) | (FROM WS2) | (FROM WS3) | (FROM WS4) | (FROM WS5) | (FROM WS6) | |
| NA | NA | 0E+00 | 0E+00 | 0E+00 | 0E+00 | |
| 6E-10 | 2E-08 | | | | | |
| NA | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| NA | 7E-08 | | | | | |
| NA | 5E-06 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | 4E-07 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 4E-10 | NA | | | | | |
| 0E+00 | NA | | | | | |
| 4E-09 | NA | | | | | |
| NA | NA | | | | | |
| 1E-10 | NA | | | | | |
| 4E-10 | NA | | | | | |
| 6E-10 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 3E-10 | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| NA | NA | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| 0E+00 | 0E+00 | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| 0E+00 | 0E+00 | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 0E+00 | 0E+00 | | | | | |
| NA | NA | | | | | |
| 0E+00 | NA | | | | | |
| 2E-09 | NA | | | | | |

| | 6.4E-09 | 2.8E-08 | 4E-09 | NA | | |
|-------------------|---------|------------------------------|-------|-------|-------|-------|
| | 6.6E-09 | 2.8E-08 | 7E-10 | NA | | |
| 48 Dinitrotoluene | | | | | | |
| 49 MDX | | | | | | |
| | | TOTAL PATHWAY CANCER RISK | 3E-08 | 5E-06 | 0E+00 | 0E+00 |
| | | POPULATION TOTAL EXCESS RISK | 9E-06 | | | 0E+00 |